APPOINTMENT BOOKING

A PROJECT REPORT

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ABSTRACT

The purpose of Appointment System is to automate the existing manual System by the help of computerized equipments and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with. Appointment System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information. The aim is to automate its existing manual system by the help of computerized equipments and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same Basic prescribes how to manage for good

Native Abstract

అపాయింట్ మింట్ సిస్మ్ట యొక్క ఉద్దేశ్య ిం ఇప్ప టికే ఉన్న మాన్యయ వల్న్య ఆటోమేట్ చేయడిం క్ింప్యయ టరైజ్డ్ ప్రిక్రాలు మరియు ప్యరి ిస్థ య య క్ింప్యయ టర్ాఫ్టవేర్ట స్థాయింతో సిస్మ్ట , వాటి అవస్రాలన్య తీరుస్ిరిింది, తద్వా రా వారి విలువైన్ డేటా/స్మాచారాన్నన స్లభింగా యాక్సె స్ చేయడిం మరియు తారుమారు చేయడింతో ఎక్కక వ కాలిం న్నలా చేయవచ్చు . అవస్రమైన్ాఫ్టవేర్ట మరియు హార్వేర్ స్లభింగా అిందుబాటులో డింటాయ మరియు ప్న్న చేయడిం స్లభిం. అపాయింట్మింట్ సిస్మ్ట , పైన్ వివరిించిన్ విధింగా, లోప్ిం లేన్న, స్రక్షితమైన్, విశ్ా సీ్నయమైన్ మరియు వేగవింతమైన్ న్నరా హణ వయ వస్క్కయ ద్వరి తీస్ిరిింది. ఇది రికార్ ్కీపింగ్పై దృష్ట ట పెటటడాన్నకి బదులుగా వారి ఇతర కారయ క్లాపాలపై దృష్ట ట పెటడాన్నకిట విన్నయోగద్వరుక్క స్థాయప్తుింది. అిందువలన్ ఇది వన్రులన్య మరుగైన్ విన్నయోగింలో స్ింస్యక్క స్థాయిం చేస్ిరిింది. రిడిండింట్ ఎింట్రీలు లేక్కిండా క్ిింప్యయ టరీక్రిించిన్ రికార్ులన్య స్ింస్య న్నరా హించగలదు. అింటే స్మాచారాన్నన చేరుకోగలిగిన్పపప డు స్ింబింధితిం కాన్న స్మాచారిం ద్వా రా ప్రధ్యయ న్ిం చిందవలి న్ అవస్రిం లేదు.క్ిింప్యయ టరైజ్డ్ ప్రిక్రాలు మరియు ప్యరి ిస్థ య య క్ిింప్యయ టర్ాఫ్టవేర్ట స్థాయింతో ద్వన్న ట్రప్స్ిత మాన్యయ వల్ సిస్మ్ట న్య ఆటోమేట్ చేయడిం, వాటి అవస్రాలన్య తీరు డిం దీన్న లక్ష్య ిం, తద్వా రా వారి విలువైన్ డేటా/స్మాచారిం అద్ధ న్న స్లభింగా యాక్సె స్ చేయడిం మరియు తారుమారు చేయడింతో ఎక్కక వ కాలిం న్నలా చేయవచ్చు . మించి కోస్ిం ఎలా న్నరా హించాలో
వివరిస్ిరిింది

ABBREVIATIONS

API	Application Programming Interface
URL	Uniform Resource Locator
UI	User Interface
DBMS	Database Management System
HTML	Hyper Text Markup Language
CSS	Cascading Style Sheets
MERN	MongoDB ExpressJs React NodeJs
REST API	Representational State Transfer Api

1. INTRODUCTION

1.1 Introduction to the System:

An appointment management system is a software used by companies and service providers to streamline their service appointments. By using the system, potential customers can know and choose their preferred appointment times according to the companies and service providers' available time slots. This project does not include a B2C marketplace-like interface for customers to browse different service providers. Online Doctor Appointment System using React JS and MongoDB is developed with point of manage the list of data of doctors, patients, appointment bookings, doctor available schedule information etc. This Project on Doctor Appointment System, which is web based or online application which will resolves the problem of booking of Appointment according to the choice and requirement of the patient. Under this system, there is one feature like it is very effective solution which has offered with different available doctor availability on suitable dates and times, so patient can book doctor appointment according to their requirements or choice and patient can also cancel doctor appointment which also available under this system.

In our project we will build an online appointment scheduling web application for every student to schedule an appointment by them self whenever and wherever they are. This system helps to lessen the burden of waiting at the advisor's assistant's desk or to conserve time and use it in an efficient manner we will bring this appointment scheduling process online. The need for healthcare services is growing with the increase in population and the number of patients who seek health care at hospitals, medical facilities, holistic groups, and physicians practice has improved significantly.

These bring a new set of challenges for the staff of the facility and administrators. Online scheduling software, a recent technological advancement, has made the booking process in hospitals easier for both patients and administrative staffs.

What are the advantages of Online Scheduling System?

The online scheduling systems are also known in many names such as online booking application, online scheduler, online scheduling software, and more. It is one of the most commonly used web-based applications and enables individuals to securely and conveniently book their reservations and requests online via a laptop, tablet, smartphone, computer, and other web-connected devices.

Anyone can access the online appointment management system via the URL provided by the healthcare or medical facility or through a “Book Now” button in the website. Once the time and date are selected, the system confirms the bookings automatically and also records it within the system instantly without any intervention from the staff.

The online appointment management system also comes with features like automated text and email message reminders, which is sent to the booked patients or individuals on the date booked before their scheduled time of booking. The flexibility of the online appointment management system in healthcare includes Booking inoculations and vaccine in hospitals.

- Scheduling a patient’s treatment, services, and appointments.

Time-Saving:

The staff spends less time on managing appointments, and phone booking, and can, therefore, use their free time for more urgent and vital tasks. The patients can also save time as there is no need for calling the hospital and booking an appointment in the middle of their busy schedule.

For example, consider a large medical facility hospital which schedules 100 plus appointments daily. Every appointment calls are handled by the support staff from the administration, and they spend approximately 3 to 4 minutes on a phone call.

In this case, if the healthcare facility switches to an online booking system it can save most of their time and also get more time to deal with other pressing tasks in the facility.

Monetary Savings:

The time savings made by the facility can translate automatically into monetary savings as a reduction in services and staff translates into a reduction in expenses. The appointment management system can reduce the need for extra human resources created by the process of appointment scheduling.

24 hours convenience:

An individual is needed to schedule an appointment over the phone calls during the office hours, and therefore people need to work round the clock on the phone booking. With online appointment management system, the individual or the patient can book an appointment any time. It is seen that after business hours there is more than 55 percent of all appointments booked through online scheduling appointment systems.

Online Payment:

Every service needs a secure payment system. As an online appointment management system is safe, and the data is kept secure, people find themselves comfortable with online payments. Offering a free consultation or discounts on consultation fees within the limited period after the initial consultation encourages the individual patients to make use of the online appointment management system every time to book the appointment

Healthcare providers are making use of the latest technology and keeping themselves updated to enhance quality. The online appointment scheduling system is considered to be a step forward to bring a healthcare facility to the future.

Making the workflow perfect, enhancing data reporting and capturing, improving efficiency and time savings, providing the patient with significant convenience and choice, thereby enhancing the patient loyalty and trust are some important benefits of an online appointment management system.

Centralized Information System:

Online systems make patient management easier and more efficient. Some online scheduling systems for appointments also have management of patient health records as part of the package. The organization can create a single point from which to save, update, manage and analyze patient information.

Recording, reporting and analyzing such information helps to efficiently manage the case file of a patient. All regularly recorded patient information, along with a history of check-ups and associated medical tests, can be used to make educated, carefully considered health care decisions. This can reduce the amount of documentation and the time it takes to access physical files.

It is also possible to avoid redundant data entries about the same patient. In addition, the ongoing records of the patient can be updated at each appointment, making patient information available for easy and fast access in one place. This is important when two different practitioners are consulted at the same facility by a patient.

For example, it may be more convenient for a patient consulting a dentist and an orthodontist at the same facility to have information stored at a single point, as the dentist would like to be informed about the ongoing orthodontic treatment of the patient in order to assess how best to handle the specific oral hygiene needs of the patient.

In the same facility under another doctor, a quick reference to the current orthodontic procedures that the patient undergoes is all it takes for the dentist to plan his procedure. It saves time and ensures complementary and coordinated overall services are provided. Such systems become a common interface to access information about a single patient by different medical staff. This can go a long way in strengthening the care process of a patient.

Goal:

The project is basically targeted at those people who would like online services.

To make a database that is consistent, reliable and secure.

To provide correct, complete, ongoing information.

To develop a well-organized information storage system.

To make good documentation so as to facilitate possible future enhancements.

Features:

- Secure & time management
- Easy to use & flexible
- Reliable and accurate
- No need to go to any places

Need of the System:

All this process is available online through our web application "APPOINTMENT SCHEDULING SYSTEM". Any changes in the scheduled appointments such as cancellation of visiting hours will be notified through email.

1. Online Appointment Scheduling:

Schedule appointments and events online using an AI-powered scheduler. Make cancellations and rescheduling easy for your customers to reduce no-shows.

2. Multi-channel Access:

Schedule appointments using multi-channels such as person to person, over a phone call, or video conferencing using a built-in conferencing app. Virtual appointments in the era of the pandemic are the most preferred channel of appointments used by many clients.

3. Available Time Slots and Time Period:

Limit the number of appointments that can be scheduled in a day by limiting the time slots and time periods available.

4. Set Up Reminders:

Schedule.cc gives the user the ability to set up reminders for the upcoming appointments and also send reminders if there are any changes in the scheduled appointments which keeps the clients updated.

5. Calendar View of Scheduled Appointments:

View all the scheduled appointments in the calendar view or list view. The calendar view gives the list of all the upcoming appointments.

Task Identification A lot of tasks need to be accomplished and relevant skills required to successfully build this appointment Bookingg application .

Various tasks are:

1. System design or architecture . 2. Data sample needs to be collected via some online source or survey.

3. Finding all the use cases and problems that can solved by this system.

4. Building a model – implement using a specific programming language Testing 5. Report Generation

1.2 **Timeline of Project**

Following (table 1.2) timeline was followed for the swift and timely completion of task identified in this section.

Task	DeadLine
Resource collection	1 week
System Design	4-7days
User interface design	2-3weeks
Backend design	2 weeks
Testing	2 weeks
Deployment	1-2days

TABLE 1.2 TIMELINE OF PROJECT

Skills Needed Based on the task identified earlier Under section

1.3, individual with the following skill set will be required to successfully accomplish this project.

1. System design – knowledge of UML diagram, system design concepts

2. Data collection – knowledge of noSql, MongoDB

3. ClientSide-development – knowledge of ReactJS, or any contemporary modern day programming language

4. Building a model – knowledge about a specific framework preferably React, expertise in various Front end development technologies.

5. Testing – Knowledge about Unit testing, Black box testing

6. Report Generation – Good command over English language.

Organization of the report

The following chapters will give an elaborate description of the project.

Chapter 2 of this report describes the various literature surveyed,hencegive an idea of the recent trends and development in the field. This chapter also propose solutions to solve the problems identified in

4chapter 1, goals and objectives this project wish to achieve.

Chapter 3 describes the design constraints we would have. In the same chapter data flow diagram, flowchart will give a visual description of the project details.

Chapter 4 gives the results obtained; testing methods adopted.

Chapter 5 gives conclusion and future work that can be pursued to improve the Diabetes prediction system.Integrate your calendar with third-party apps such as Google Calendar, iCal, Microsoft Outlook, and more. Manage multiple calendars at one point and reduce the chances of double bookings.

2. CHAPTER

LITERTAURE REVIEW

Timeline of reported problem

The proposed project is a smart appointment booking system that provides patients or any user an easy way of booking a doctor's appointment online. This is a web based application that overcomes the issue of managing and booking appointments according to user's choice or demands. The task sometimes becomes very tedious for the compounder or doctor himself in manually allotting appointments for the users as per their availability. Hence this project offers an effective solution where users can view various booking slots available and select the preferred date and time. The already booked space will be marked yellow and will not be available for anyoneelse for the specified time. This system also allows users to cancel their booking anytime. The system provides an additional feature of calculating monthly earnings of doctor.

Doctor has to just feed the system regularly with daily earnings and the system automatically generates a report of total amount earned at the end of the month. The application uses Asp.net as a front-end and sql database as the back-end. Say you run a pet grooming business and your poodle cutting specialist takes a twoweek vacation. You can enter her days off in the appointment scheduling app ahead of time so that your clients won't be able to book any poodle grooming time during Days.

Bibliometric Analysis

With a focus on delivering a plethora of software solutions in logistics, e-learning, ecommerce, fintech and recruiting, we, at DDI Development, often receive requests to create digital solutions and meet any business needs. It's no secret that manually scheduling a huge set of appointments and then confirming them by the clinical practitioners is a cumbersome process. Taking this determining factor into account, many clinics,

hospitals and private practices opt for the medical appointment scheduling platforms. Not only can they handle schedules with ease, but they can also send reminders to their patients

automatically Choosing a medical office appointment system is crucial to any clinic or private practice. That's why ensuring the effectiveness of the initiative is important at the very start. Practices and clinics should first establish a budget for the software and identify essential features and functionality that will help you deliver the medical services you need and provide your patients with a safe and more positive experience. Moreover, not only should you review your current requirements, but you also need to keep in mind what your clinic will need in the future. Only by documenting your business requirements can you identify areas where a new medical appointment scheduling platform could improve your business processes.This will help you explain your requirements to potential suppliers or vendors. For example, your staff is overloaded with manual appointment scheduling and you need to delegate this task to the software solution. Also, you need to consider whether you need an on-premise or cloud-based solution. For clinics that need to provide access to the medical office appointment scheduling system from different places, cloudbased solutions are more suitable. Not only can you implement them easily, but you can also schedule an appointment in one click. Moreover, you can find a reliable tech provider and create a medical appointment scheduling system from scratch according to your unique needs and requirements.

Proposed Solutions

The best booking apps do more than simply give clients a list of available times when they can come in for a meeting, treatment, or service. They also let your clientele cancel and reschedule appointments without having to contact you. Additionally, they make it easy for business owners and managers to do their jobs, allowing you to streamline communication, centralize payments, and manage your staff. Here's what you should expect from the very best appointment scheduling apps:

Arrange for clients to fill out paperwork before the appointment. Another convenient feature of appointment software is the ability to have clients enter information critical to the appointment. For example, medical offices have patients fill out health information, and the Apple Store has customers enter the issue they're having with their device. Other businesses can use this feature to gather information on what the client wants to accomplish during the meeting.

Sync with everyone involved in the appointment. With appointment software, you can easily get everyone on the same page using the app or automated communication methods like emails, text messages, or phone calls.

Streamline the signup process. With software, you can have clients enter appointments through an online interface or on their devices. Then, the appointment can automatically sync with every device that runs the app as well as cloud-based calendars, such as Google Calendar.

- Flexibility. The best appointment scheduling apps know that different kinds of organizations have different needs, so they let you deeply customize how your bookings work. A small gym offering one-on-one training sessions should have a different booking experience than a community workshop that rents gardening equipment. Do you want your clients to be able to choose from a menu of services? Should they be able to specify the location for their appointment, such as for services offered at their home? Though there are some great niche options out there (like Vagaro for salon, spa, and fitness businesses), the best appointment scheduling apps let you customize these aspects

- Calendar syncing. Nearly all appointment scheduling apps let you sync with a calendar. Some even require it. That way, you can see your business's scheduled appointments alongside other important information, such as when you'll be closed for holidays or renovations. Plus, the app can crossreference your availability with the events on your primary calendar. For our tests, apps were only considered if they offered syncing with Google Calendar and at least one other popular calendar— and priority was given to apps that offered two-way syncing.
- Payment processing. The best appointment scheduling apps let you collect a payment at the time of booking. That way, you can take a deposit for an appointment or have clients pay for their services upfront. If a client doesn't show up, your business isn't at a total loss.
- Integration with third-party tools. Your appointment scheduling tool absolutely needs the ability to connect to the rest of your tech stack. If the app can't integrate with tools like Slack, Mailchimp, and Zoom (or at least let you set up your own connections with Zapier), it has no business being on this list.
- Professional presentation. Your appointment scheduler should be an extension of your brand. Whether customers are making bookings or an industry peer is scheduling a Zoom call with you, the appointment scheduling process should be streamlined, glitch-free, and aesthetically pleasing. It should also be flexible, with multiple points of access like a widget on your website, a Facebook Business Page, or a custom URL. For this reason, I tested each app from both the business and client sides.

I excluded any online booking system that didn't have standalone functionality. For instance, there are plenty of WordPress plugins that let your website visitors book appointments, but that could be a list in and of itself, so I didn't consider those options.

One final consideration in choosing the best appointment schedulers was to avoid confusing them with meeting scheduling apps. Meeting schedulers share some similarities with appointment software. The key difference is that meeting apps are specifically for meetings, whereas appointment scheduling apps are for a variety of appointment types that may or may not include a menu of services but often require payment at the end.

Online Appointment Management:

System has been build by using HTML with MongoDB database at server side and at client-side using Ajax jQuery and other jquery plugin. This PHP project you can use for your major project. The main aim for developed Appointment System is for solve the purpose for disallow the problems, which are not in the current system. This Appointment System is assume to remove the hardships, which will be available in the current appointment system. But by using electronics equipment like computer and by using this devices we can stored valuable information which we can stored under this appointment system. This Online Appointment system is show as the fast, error free and secured system with fast management of data. With the help of this Appointment System which show the good for use of resources and stored records in central location of database.

This system we can also called Online Patient Scheduling or also known as Online Appointment booking system and it has optimized phase of medical services to increase patient healthcare experience in hospitals or in clinics. This system has been build by motivating to see the increasing popularity of online appointment booking system and the main aims of developing this project on online appointment booking system, we have add doctor scheduling model also which has been takes into accounts when patient would like to seen this feature. Now a days it is rational to established the issue that a very less hospitals has provide online appointment booking system. So solve this all problem we have build this Doctor Online Appointment booking system.This Online Doctor Appointment Booking System in HTML is a easy project developed using script, MongoDB database, and jQuery. Under this project there are three sides. One at Admin side, second is doctor side and third is patient side. Under this Doctor Appointment System Admin can manage whole system data like doctor data, patient data, doctor schedule data and appointment data. At the Doctor side, doctor can schedule their available time details under this system, Doctor can view appointment data. And at patient side, they can view doctor availability data and based on that data they can book appointment under this system.

Review Summary

Choosing a medical office appointment system is crucial to any clinic or private practice. That's why ensuring the effectiveness of the initiative is important at the very start. Practices and clinics should first establish a budget for the software and identify essential features and functionality that will help you deliver the medical services you need and provide your patients with a safe and more positive experience. Moreover, not only should you review your current requirements, but you also need to keep in mind what your clinic will need in the future. Only by documenting your business requirements can you identify areas where a new medical appointment scheduling platform could improve your business processes.This will help you explain your requirements to potential suppliers or vendors. For example, your staff is overloaded with manual appointment scheduling and you need to delegate this task to the software solution. Also, you need to consider whether you need an on-premise or cloud-based solution. For clinics that need to provide access to the medical office appointment scheduling system from different places, cloud-based solutions are more suitable. Not only can you implement them easily, but you can also schedule an appointment in one click. Moreover, you can find a reliable tech provider and create a medical appointment scheduling system from scratch according to your unique needs of requirements.

Problem Definition,Goals and Objectives

Unfortunately, long hospital queues are becoming a considerable concern in the medical offices. With that in mind, you can provide your patients with an online appointment scheduling system as a way out to reduce waiting time for arranging appointments. Here you can find some information on why you should have a focus on medical office appointment scheduling system implementation:

- You can offer time slot options so that patients can choose the time that works best for them when booking an appointment.
- You can be sure that every hour is used efficiently.
- The system will send automatic reminders if the appointment is booked to inform patients and healthcare providers about the upcoming clinic visits in advance.
- You can offer more options in choosing the best time for patients to have a consultation that will increase patient satisfaction rates.

As you see, with online scheduling you can improve the quality and productivity of your medical services. Not only does it help you better organize your patient appointment schedules and send appointment reminders, but you can also facilitate quick cancellation of scheduled visits as we

With the help of this project, Only by eliciting all the essential information about the business processes, potential users, their actions, location, etc. could we identify key features for the potential medical appointment scheduling project. Based on that information, we defined the roles of the users such as a patient, a doctor and an administrator. In addition to that, we came up with the following features:

- patient scheduling
- billing
- reminders
- patient messaging
- financial reporting and analysis calendaring of schedules.

Objective:

In our project we will build an online appointment scheduling web application for every student to schedule an appointment by them self whenever and wherever they are. This system helps to lessen the burden of waiting at the advisor's assistant's desk or to conserve time and use it in an efficient manner we will bring this appointment scheduling process online. The need for healthcare services is growing with the increase in population and the number of patients who seek health care at hospitals, medical facilities, holistic groups, and physicians practice has improved significantly.

These bring a new set of challenges for the staff of the facility and administrators. Online scheduling software, a recent technological advancement, has made the booking process in hospitals easier for both patients and administrative staffs.

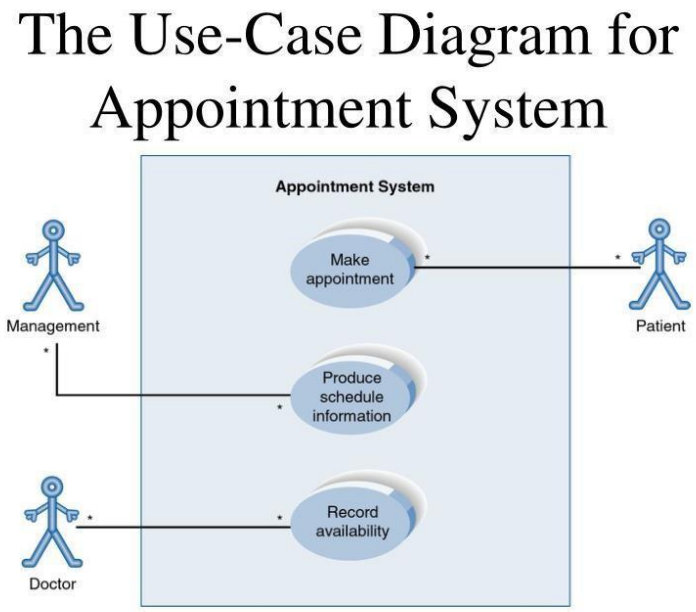
CHAPTER-3

DESIGN FLOW &PROCESS

Use Case Diagram:

- Use case diagram consists of use cases and actors and shows the interaction between them. The key points are:
- The main purpose is to show the interaction between the use cases and the actor.
- To represent the system requirement from user's perspective.
- The use cases are the functions that are to be performed in the module.

Fig-4.1



Sequence Diagram For Administrator:-

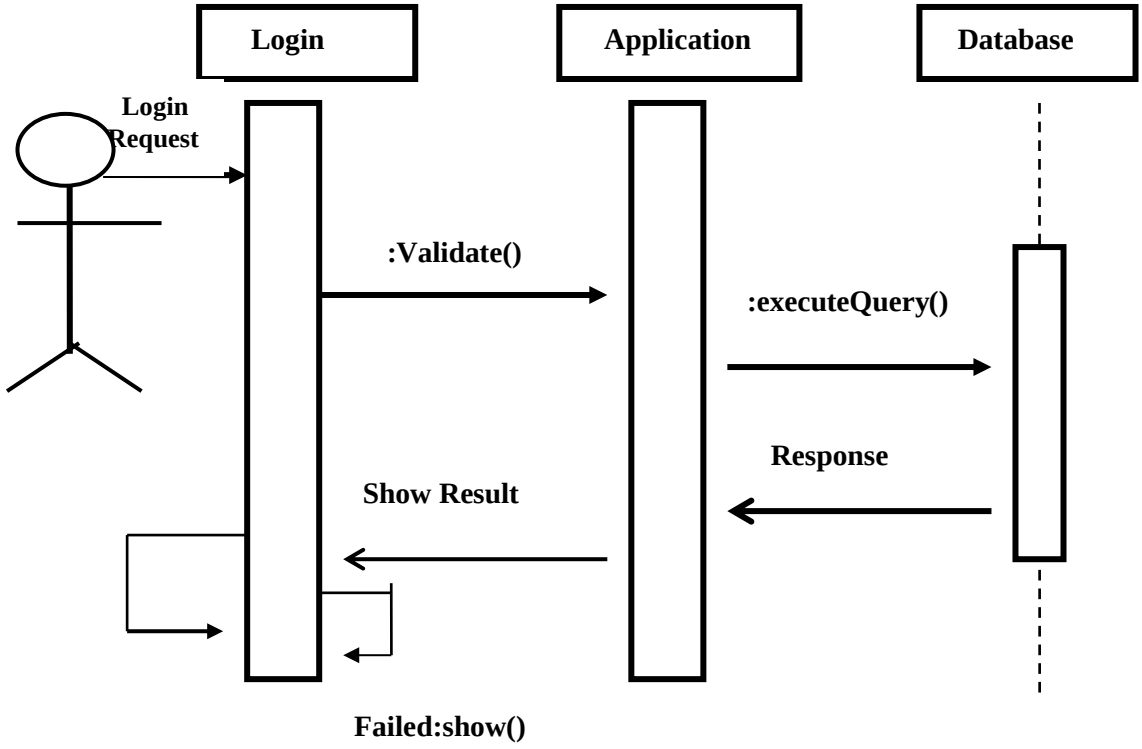

Login
Application
Database
Login
Request
:Validate()
:executeQuery()
Response
Show Result
Failed:show()

Fig-4.3

Activity Diagram _ User

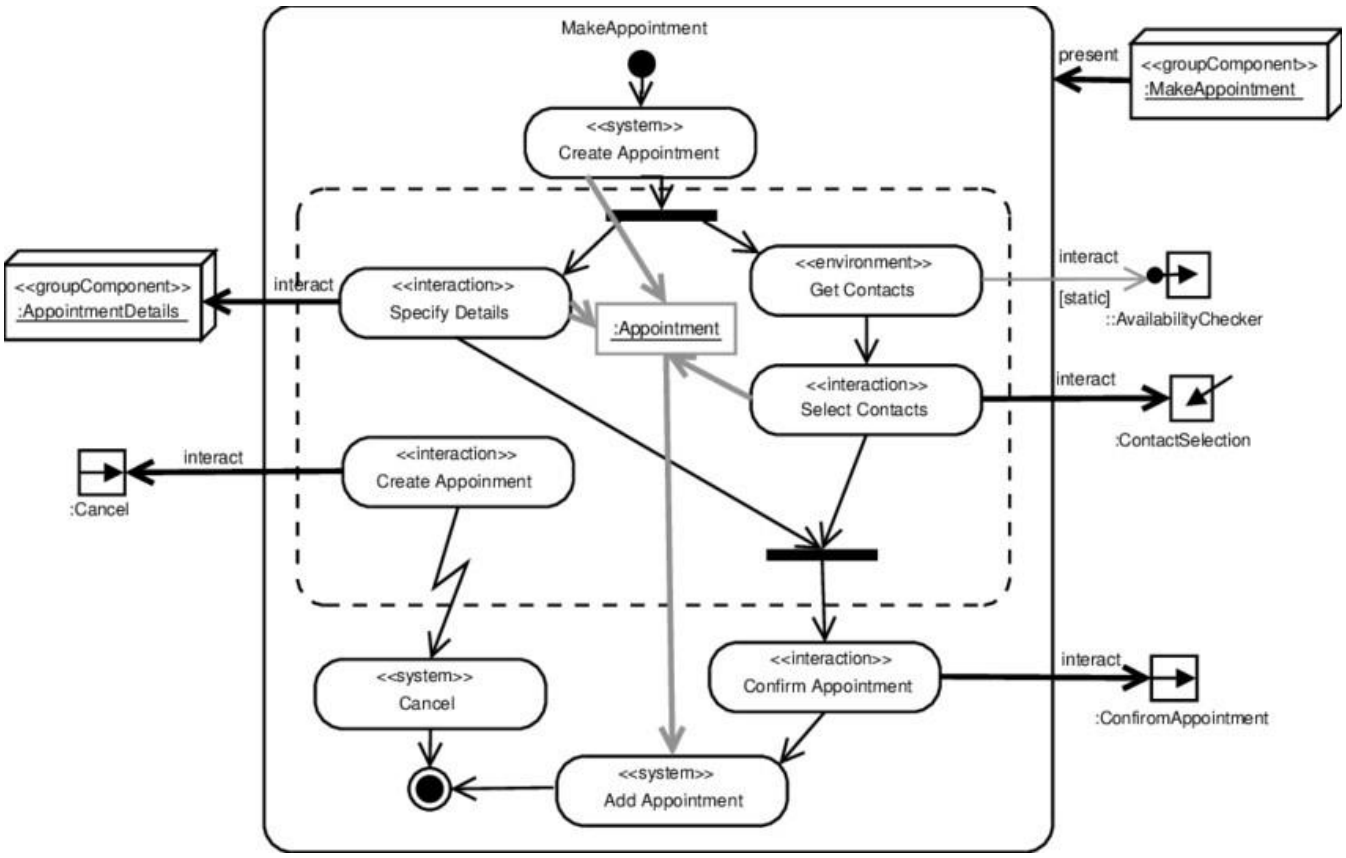


Fig-4.4

Data Flow Diagram

A Data Flow Diagram (DFD) is a graphical representation of the "flow" of data through an Information System. A data flow diagram can also be used for the visualization of Data Processing. It is common practice for a designer to draw a context-level DFD first which shows the interaction between the system and outside entities. This context-level DFD is then "exploded" to show more detail of the system being modeled.

A DFD represents flow of data through a system. Data flow diagrams are commonly used during problem analysis. It views a system as a function that transforms the input into desired output. A DFD shows movement of data through the different transformations or processes in the system.

Dataflow diagrams can be used to provide the end user with a physical idea of where the data they input ultimately has an effect upon the structure of the whole system from order to dispatch to restock how any system is developed can be determined through a dataflow diagram. The appropriate register saved in database and maintained by appropriate authorities.

DFD:

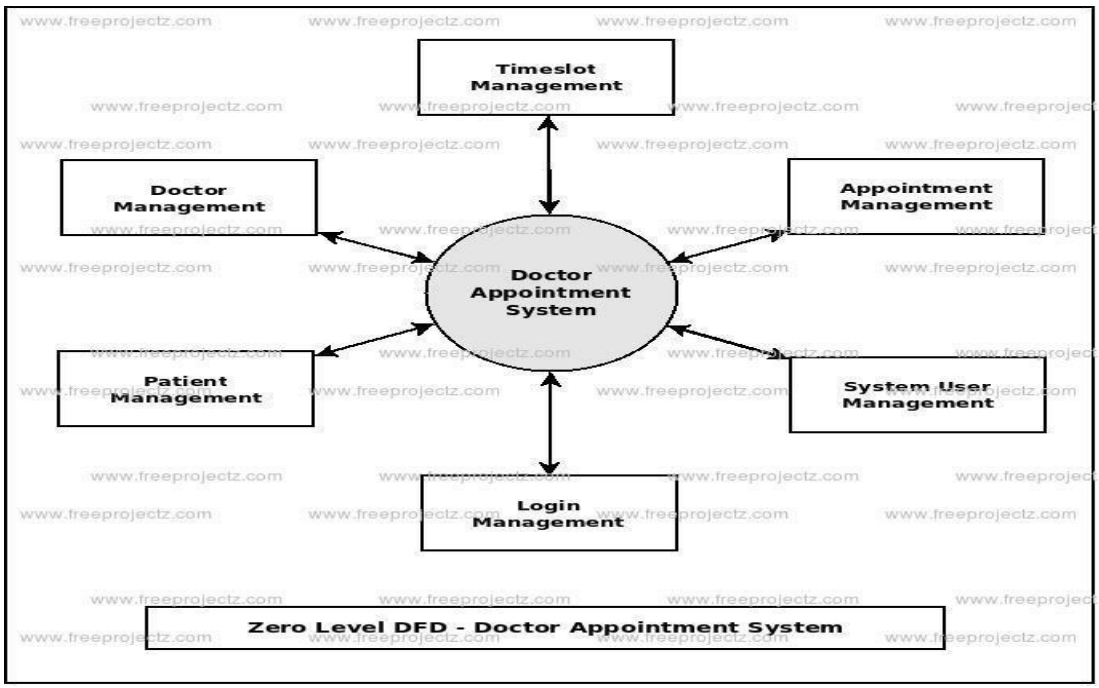


Fig.4.5

The main purpose of the patient UI is to let them choose a free appointment slot. Appointments of other patients are hidden, as well as slots from the past. The slots are read-only and can't be

moved. As soon as a patient selects a slot, the color changes to orange, which indicates a "waiting" status (see more on appointment slot status below). The appointment request needs to be confirmed.

ER-DIAGRAM:

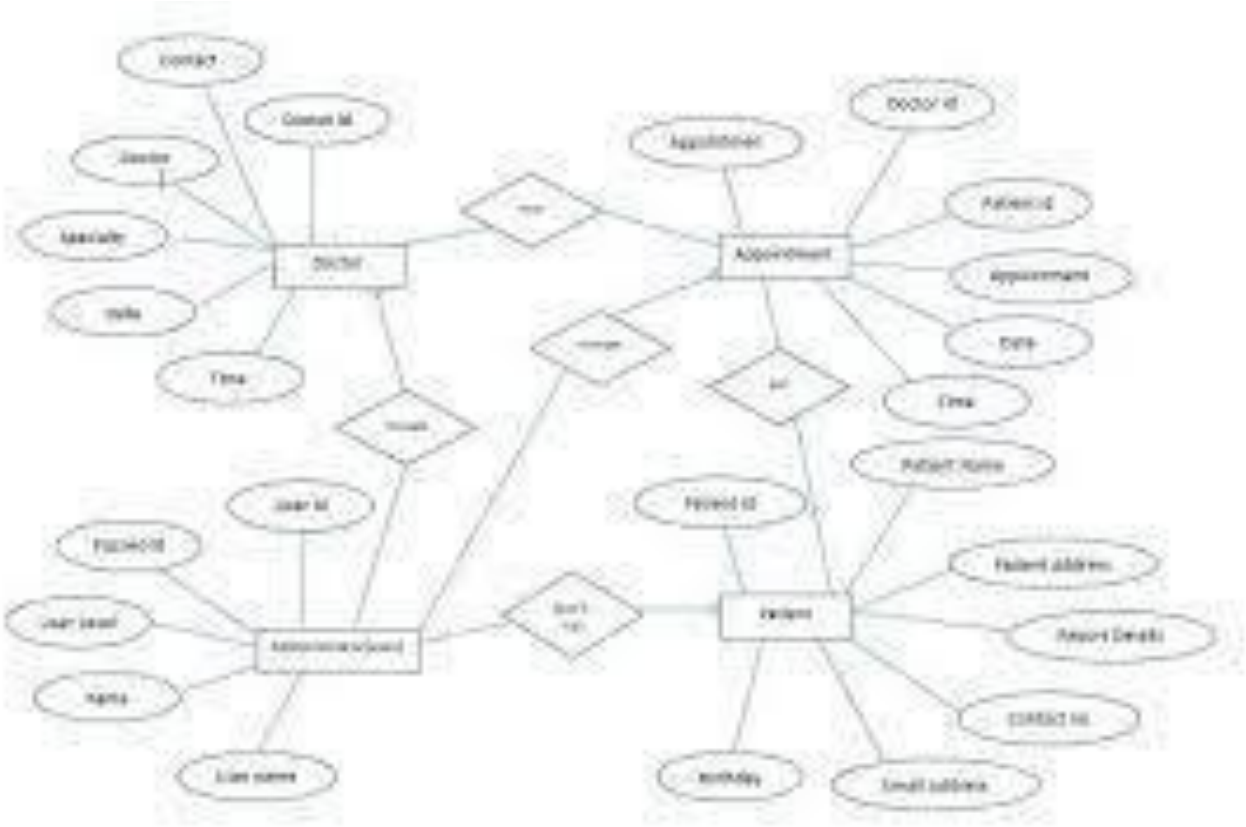


Fig-4.6

Concept Generation

- The purpose of this project is to give a platform increases customer satisfaction because the customer doesn't have to wait on hold or call back again if they don't get through right away.

It reduces phone calls and emails, making communication easier for both parties. It improves customer experience by providing an easy way to book appointments.

- Schedule appointments for webinars, conferences, and more.
- It saves time for the business and customers

In traditional appointment system patients has to come to the hospital and queue at the appointment window to make the appointment. But they usually end up waiting for very long periods of time. The patient can, however, decide to schedule an appointment, but this option does not usually work well for all parties involved. Parties involved include the patient, the medical personnel and the hospital. Thus, this project focuses on making a system that helps customers to book appointments online along with other useful features.

Product Scope: Online appointment scheduling system is a system through which a user or simply, a patient can access the website of the doctor, and through the online software, the patient can easily make their appointments. Eventually, the manager of the clinic can update the appointment status of the patients making it more informative.

Overall Description: There is several online appointment scheduling tools in the marketplace, some of which are feature-loaded, easy to set up and cheap. For doctors, online appointment scheduling brings a lot of value to add services and benefits, like engaging the patient, making the patient feel appreciated, and being able to store patients' data securely for future reference. But the most wonderful and useful advantage is that online appointment scheduling is amazingly low cost.

Project Scope:

Scope of this project is very broad in terms of other manually finding Doctors Few of them are:

- This can be used by paients to find doctor whenever needed.
- Can be used anywhere any time as it is a web application.
- This web application can be used by many paients who are searching for Doctors nearby.

The project has a wide scope, as it is not intended to a particular organization. This project is going to develop generic software, which can be applied by any businesses organization. More over it provides facility to its users. Also the software is going to provide a huge amount of summary data.

REACT JS:

ReactJs is a library of Javascript.It is component based development tool in which each UI is divided into small pieces called components and compiled them together to make complex applications.

React is more reliable due to its architecture, it follows JSX which is combination Javascript+Html+Css.React is a single page application means never ever undergo page refresh when we perform any action it will give data without any page refresh.For developing Rich user interfaces we mostly consider reactJs.

React is a declarative, efficient, and flexible JavaScript library for building user interfaces. 'V' denotes the view in MVC. ReactJS is an open-source, component-based front end library responsible only for the view layer of the application. It is maintained by Facebook. React uses a declarative paradigm that makes it easier to reason about your application and aims to be both efficient and flexible. It designs simple views for each state in your application, and React will efficiently update and render just the right component when your data changes. A React application is made of multiple components, each responsible for rendering a small, reusable piece of HTML. Components can be nested within other components to allow complex applications to be built out of simple building blocks. A component may also maintain an internal state – for example, a TabList component may store a variable corresponding to the currently open tab.

Architecture of the React Application:

React library is just UI library and it does not enforce any particular pattern to write a complex application. Developers are free to choose the design pattern of their choice. React community advocates certain design pattern. One of the patterns is Flux pattern. React library also provides lot of concepts like Higher Order component, Context, Render props, Refs etc., to write better code. React Hooks is evolving concept to do state management in big projects. Let us try to understand the high level architecture of a React application.

React App

React app starts with a single root component.

Root component is build using one or more component.

Each component can be nested with other component to any level.

Composition is one of the core concepts of React library. So, each component is build by composing smaller components instead of inheriting one component from another component.

Most of the components are user interface components.

React app can include third party component for specific purpose such as routing, animation, state management, etc.

HTML

HTML (Hypertext Markup Language) is the set of markup symbols or codes inserted in a file intended for display on a World Wide Web browser page. The markup tells the Web browser how to display a Web page's words and images for the user. Each individual markup code is referred to as an element (but many people also refer to it as a tag). Some elements come in pairs that indicate when some display effect is to begin and when it is to end.

1. User Friendly & Simple

You can write HTML using annotations called tags. Tags give HTML a structure and make it easy for humans and browsers to read the document efficiently. They also enable a browser to apply CSS (Cascaded StyleSheets) to the digital document, making it a powerful visual combination.

While HTML comes with 100s of tags inbuilt, only a handful of them that a developer needs to learn for everyday use. Of course, all tags hold value; most of them don't find usage in normal development.

2. Semantic Structure

HTML5 defines unique tags to annotate different elements for their specific purposes. The <article> tag, for example, is used to annotate content on a page. The <aside> tag represents some content that is indirectly related to the document's primary content. Other noteworthy elements are <header>, <footer>, , the paragraph tag <p>, and the one most used for navigation between pages, the <a> tag.

3. SEO – Search Engine Optimisation

SEO is by far the biggest USP (Unique Selling Point) of HTML5. With the advent of search engines like Google, Yahoo!, DuckDuckGo etc., you have so much information literally at your fingertips. These search engines accumulate information on the World Wide Web using computer programs that crawl the internet (also called web crawlers) and map keywords with respective documents in which they find it. These web crawlers can assimilate this data only because HTML is well structured, and you can optimise your web pages for searchability.

To highlight SEO, let me bring to your attention that this page is also SEO optimised and should appear for the search query “Top features of HTML”. You can even make use of the semantic structure of HTML for Search Engines using tags like <title>, <meta> with description, <header> etc., to let the web crawler know about the critical keywords in the document.

4. localStorage & IndexedDB – Client-side data storage

HTML5 comes with essential improvements in storage capabilities on the client’s side. The localStorage and sessionStorage are crucial features that help developers store information on the client’s side. These are essential advancements in browser storage capabilities because cookies limit data storage size on the client side. One can store small pieces of information like authentication tokens or usernames on the client using cookies. Still, localStorage API is where storage comes in handy for users when they revisit the web application. Imagine not having to repeatedly load some standard information on the client, which saves a lot of resources for both client and server. The sessionStorage API enables a developer to persist information just for that session. Meaning, the data is wiped out as soon as the user closes that tab. This feature comes in handy for browser-based games or high-security applications that have a limited session.

IndexedDB takes client-side storage a step beyond what localStorage does. While you could potentially store a lot of data with localStorage in a key-value form where both are strings, you can store more complex and significant data in the key-value form using IndexedDB. The key is a string, and the value to be stored is a native JavaScript object. Oh, and this object will persist through the IndexedDB until someone explicitly removes it.

IndexedDB enables the web application to store data on the client-side, i.e. the browser, and allows your web application to continue functioning even with flaky or a dropped internet connection. Let us talk more about this in the next feature.

5. Offline Capabilities (PWA) with Cache API & Service Workers

Imagine if you could build a web application that works even when the user’s internet is down. Well, you don’t have to imagine because, with the advent of Service Workers, IndexedDB and Cache API, you could very well make this a reality. Your web application could offer a native-like experience to

your users. Many applications like Flipkart already do this, and it's called a PWA (Progressive Web Application).

Service Workers act as a proxy between the user's machine and the internet. They can store files locally and fetch them when needed via the Cache API and can also bring information from the IndexedDB to provide the application with data. So, when there's no internet on a user's device, the Service Worker intercepts these requests and serves them from the locally stored data. You can configure your service worker to update these files periodically or on-demand.

6. Canvas for Game Development

You can use HTML5 to build some simple games; however, if you're looking to make a good video game, you can utilise the <canvas> element along with CSS and JavaScript. Canvas enables you to build 2D and 3D games. You can make these games as interactive as you'd like.

7. Platform Independent

HTML runs on a browser, and you can find a browser on almost any device with a simple Operating System. If you had used mobile phones before smartphones were a thing, you would know that even old Nokia phones that ran Symbian OS could open HTML pages.

8. Media Support

HTML can display images, video and audio; therefore, it enjoys excellent media-running capabilities. HTML5 came up with <video> and <audio> tags making this a lot easier than before. Of course, with HTML5, you can go beyond just playing media; you can specify controls, images for buttons and even control the playback programmatically.

The <figure> tag also deserves a special mention because it has revolutionised rendering images on a browser. You can also represent captions using the <figcaption> tag along with the <figure> tag.

CASCADING STYLE SHEET (CSS)

Cascading Style Sheets (CSS) are a collection of rules we use to define and modify web pages. CSS are similar to styles in Word. CSS allow Web designers to have much more control over their pages look and layout. For instance, you could create a style that defines the body text to be Verdana, 10 point. Later on, you may easily change the body text to Times New Roman, 12 point by just changing the rule in the CSS. Instead of having to change the font on each page of your website, all you need to do is redefine the style on the style sheet, and it will instantly change on all of the pages that the style sheet has been applied to. With HTML styles, the font change would be applied to each instance of that font and have to be changed in each spot.

CSS can control the placement of text and objects on your pages as well as the look of those objects.

HTML information creates the objects (or gives objects meaning), but styles describe how the objects should appear. The HTML gives your page structure, while the CSS creates the "presentation". An external CSS is really just a text file with a .css extension. These files can be created with Dreamweaver, a CSS editor, or even Notepad.

The best practice is to design your web page on paper first so you know where you will want to use styles on your page. Then you can create the styles and apply them to your page.
CSS3 is used with HTML to create and format content structure. It is responsible for colours, font properties, text alignments, background images, graphics, tables, etc. It provides the positioning of various elements with the values being fixed, absolute, and relative.

To help build highly interactive online pages, CSS3 is highly commended as it provides wider options for designing. When advertising products and services, the website is first viewed by a customer, it should be appealing and attractive, and this can be achieved with the help of CSS3.

CSS3 allows the designer to create websites, rich in content and low in code. This technology brings some exciting features that make the page look good, simple for the user to navigate, and functions flawlessly.

Some designs like drop shadows, rounded corners, and gradients find use in just about every web page. These design enhancements can make the site look appealing when used appropriately. Formerly, to use these techniques, we had to resort to many complicated methods with lots of coding

and HTML elements. We tolerated these workarounds, as there was no other way of achieving these techniques. But now, CSS3 allows us to include these designs directly, leading to simpler and cleaner, and fast pages.

Right audience for learning CSS3 technologies

Before attempting to learn CSS3, we should be familiar with the basics of HTML. HTML helps in describing the structure of our content, and CSS helps in styling and placing it. Once we grab HTML fundamentals, it is recommended to learn HTML and CSS simultaneously because HTML is much more interesting to learn when we apply CSS along with it. Then to add dynamic functionality to our webpages, we will then need to learn JavaScript.

CSS3 is fairly simple to master, and anyone wanting more control over their website's appearance should learn CSS3. Along with HTML, CSS3 works beautifully to build modern and classy webpages and websites.

This technology help you in career growth

Web development is currently a hot area where our career can really launch and earn us more than we ever thought possible. It is said that this profession will continue to grow beyond 2025. What may not be known is that web development is an established career path with technologies at least a couple of decades old. HTML, CSS, and JavaScript (JS) are the foundations of web development. These three programming languages have survived through the years and have become the pillars for the new emerging technologies. With knowledge of CSS3, we can pursue our career in many fields, including mobile application development and IoT Apps development. For creating interactive and responsive web pages, we would require Bootstrap knowledge, which is a CSS framework, thereby requiring us to be proficient in CSS. Thus, there are plenty of paths that can be taken after acquiring skills in CSS3.

Javascript

JavaScript is a programming language commonly used in web development. It was originally developed by Netscape as a means to add dynamic and interactive elements to websites. While

JavaScript is influenced byJava, the syntax is more similar to C and is based on ECMAScript, a scripting language developed by Sun Microsystems.

JavaScript is a client-side scripting language, which means the source code is processed by the client's web browser rather than on the web server. This means JavaScript functions can run after a webpage has loaded without COMMUNICATING with the server. For example, a JavaScript function may check a web form before it is submitted to make sure all the required fields have been filled out. The JavaScript code can produce an error message before any information is actually transmitted to the server.

Like server-side scripting languages, such as PHP and ASP, JavaScript code can be inserted anywhere within the HTML of a webpage. However, only the output of server-side code is displayed in the HTML, while JavaScript code remains fully visible in the source of the webpage. It can also be referenced in a separate .JS file, which may also be viewed in a browser.

Object-Centered Script Language

Client edge Technology

Validation of User's Input

Else and If Statement

Interpreter Centered

Ability to perform In Built Function

Case Sensitive format

Light Weight and delicate

Statements Looping

Handling Events

The Statement Control Syntax System of Java Script is very similar to Statement Control Syntax used in C Language. Java Script allows more abilities to perform as HTML is only capable of designing websites and incapable of performing logic operations like condition checking, statements looping (while & for), statement decision making (else and if) at client edge and adding two numbers.

JavaScript is incapable of performing these functions which results in our need for JavaScript to execute these operations over the client edge. This scripting language can help to build more

interactive websites, developing inbuilt clocks, light client edge programs, building windows popup with different dialog boxes like alerting dialog boxes, confirmation dialog boxes, and prompt dialog options.

Nowadays many web-based giants are using the technology of Java Script like Facebook, YouTube, Twitter, Gmail and Google Maps, etc. The Java Script features Enterprise level pop-down menus, Opening, and Closure of new window, manipulation of HTML Layers, Interface Enhancement of HTML, Adding animation essentials within the page, adding dynamic appearance in documents of HTML and Fixing of problems related to Browsers.

The Validation of data input within HTML Form data which is being sent to the server can be done using JavaScript. Users can also perform manipulation of data for layers of HTML like moving capability, hiding, change is the interface of HTML codes and writing them separately are some great features of Java Script.

JavaScript Features

Now let us see the features of JavaScript in detail:

1. Object-Centered Script Language

Object Centered Language features built in the object as Java Script has a window object. Some Common Examples of Object Centered languages are Java Script and Visual Basic etc. The objectcentered languages are mostly used for features like Polymorphism which is a quality of taking an object in many forms. Use of Polymorphism within object-oriented programming requires whenever we use to represent reference of the parent class to an object of a child class.

2. Client Edge Technology

The client is basically a term used for Web Browser in respective of User. The data on the server gets uploaded by a client which later used by a user in the rendered form. The user gets access to the client through a web browser for surfing and interacting through websites. The client edge technology in Java Script allows the client to have full control over the content which is being updated in servers.

3. Validation of User's Input

Validation of User's Input is most commonly known as form validation, it allows users to interact with client through filling forms through web pages. The details in the form need to be correctly filled where form validation helps the client to validate the details entered by the user.

4. Else and IF Statement

IF and Else Statements are used to perform logical operations.

5. Interpreter Centered

Java Script is built with Interpreter Centered which allows the user to get the output without the use of Compiler. That means the input performed by the user gets rendered directly without the compiling of codes.

6. Ability to Perform In Build Function

Java Script has many In-Built Functions like isNAN (), Number (), parseFloat () and parseInt () etc. isNAN () Function is used to identify that input object is correct number format. parseFloat () function is used in the conversion of the object into a number. parseInt () Function is used to analyze strings.

7. Case Sensitive Format

The codes written in Java Script are Case Sensitive which explains that there will be no difference in the output whether the codes are written in Upper Case or Lower Case Format.

8. Light Weight and delicate

Java Script Features Light Weight and delicate and codes written in JavaScript don't include variables and uses only objects to perform the operations.

9. Statements Looping

The statement looping is used to perform the same operations repeatedly. In this operation the same set of code run in repeat manner for a specific or unspecific set of time.

10. Handling Events

The Java Script has the ability to control operations updated on servers. This is basically controlling the response on the website when the user tries to perform any operation the server handled by the client like clicking on links and options, interaction response over the website, etc.

MONGODB

MongoDB, the most popular NoSQL database, is an open-source document-oriented database. The term 'NoSQL' means 'non-relational'. It means that MongoDB isn't based on the table-like relational database structure but provides an altogether different mechanism for storage and retrieval of data. This format of storage is called BSON (similar to JSON format).

Relational Database Management System(RDBMS) i**s not the correct choice when it comes to handling big data by the virtue of their design since they are not horizontally scalable**. If the database runs on a single server, then it will reach a scaling limit. NoSQL databases are more scalable and provide superior performance. MongoDB is such a NoSQL database that scales by adding more and more servers and increases productivity with its flexible document model.

Features of MongoDB:

Document Oriented: MongoDB stores the main subject in the minimal number of documents and not by breaking it up into multiple relational structures like RDBMS. For example, it stores all the information of a computer in a single document called Computer and not in distinct relational structures like CPU, RAM, Hard disk, etc.

Indexing: Without indexing, a database would have to scan every document of a collection to select those that match the query which would be inefficient. So, for efficient searching Indexing is a must and MongoDB uses it to process huge volumes of data in very less time.

Scalability: MongoDB scales horizontally using sharding (partitioning data across various servers). Data is partitioned into data chunks using the shard key, and these data chunks are evenly distributed across shards that reside across many physical servers. Also, new machines can be added to a running database.

Replication and High Availability: MongoDB increases the data availability with multiple copies of data on different servers. By providing redundancy, it protects the database from hardware failures. If one server goes down, the data can be retrieved easily from other active servers which also had the data stored on them.

Aggregation: Aggregation operations process data records and return the computed results. It is similar to the GROUPBY clause in SQL. A few aggregation expressions are sum, avg, min, max, etc

Where do we use MongoDB?

MongoDB is preferred over RDBMS in the following scenarios:

Big Data: If you have huge amount of data to be stored in tables, think of MongoDB before RDBMS databases. MongoDB has built-in solution for partitioning and sharding your database.

Unstable Schema: Adding a new column in RDBMS is hard whereas MongoDB is schema-less. Adding a new field does not effect old documents and will be very easy.

Distributed data Since multiple copies of data are stored across different servers, recovery of data is instant and safe even if there is a hardware failure.

Language Support by MongoDB:

MongoDB currently provides official driver support for all popular programming languages like C, C++, Rust, C#, Java, Node.js, Perl, PHP, Python, Ruby, Scala, Go, and Erlang.

NODEJS

Node.js is a server-side platform built on Google Chrome's JavaScript Engine (V8 Engine). Node.js was developed by Ryan Dahl in 2009 and its latest version is v0.10.36. The definition of Node.js as supplied by its official documentation is as follows −

Node.js is a platform built on Chrome's JavaScript runtime for easily building fast and scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient, perfect for data-intensive real-time applications that run across distributed devices.

Node.js is an open source, cross-platform runtime environment for developing server-side and networking applications. Node.js applications are written in JavaScript, and can be run within the Node.js runtime on OS X, Microsoft Windows, and Linux.

Node.js also provides a rich library of various JavaScript modules which simplifies the development of web applications using Node.js to a great extent.

Node.js = Runtime Environment + JavaScript Library

Features of Node.js:

Following are some of the important features that make Node.js the first choice of software architects.

Asynchronous and Event Driven − All APIs of Node.js library are asynchronous, that is, non-blocking. It essentially means a Node.js based server never waits for an API to return data. The server moves to the next API after calling it and a notification mechanism of Events of Node.js helps the server to get a response from the previous API call.

Very Fast − Being built on Google Chrome's V8 JavaScript Engine, Node.js library is very fast in code execution.

Single Threaded but Highly Scalable − Node.js uses a single threaded model with event looping. Event mechanism helps the server to respond in a non-blocking way and makes the server highly scalable as opposed to traditional servers which create limited threads to handle requests. Node.js uses a single threaded program and the same program can provide service to a much larger number of requests than traditional servers like Apache HTTP Server.

No Buffering − Node.js applications never buffer any data. These applications simply output the data in chunks.

License − Node.js is released under the MIT license.

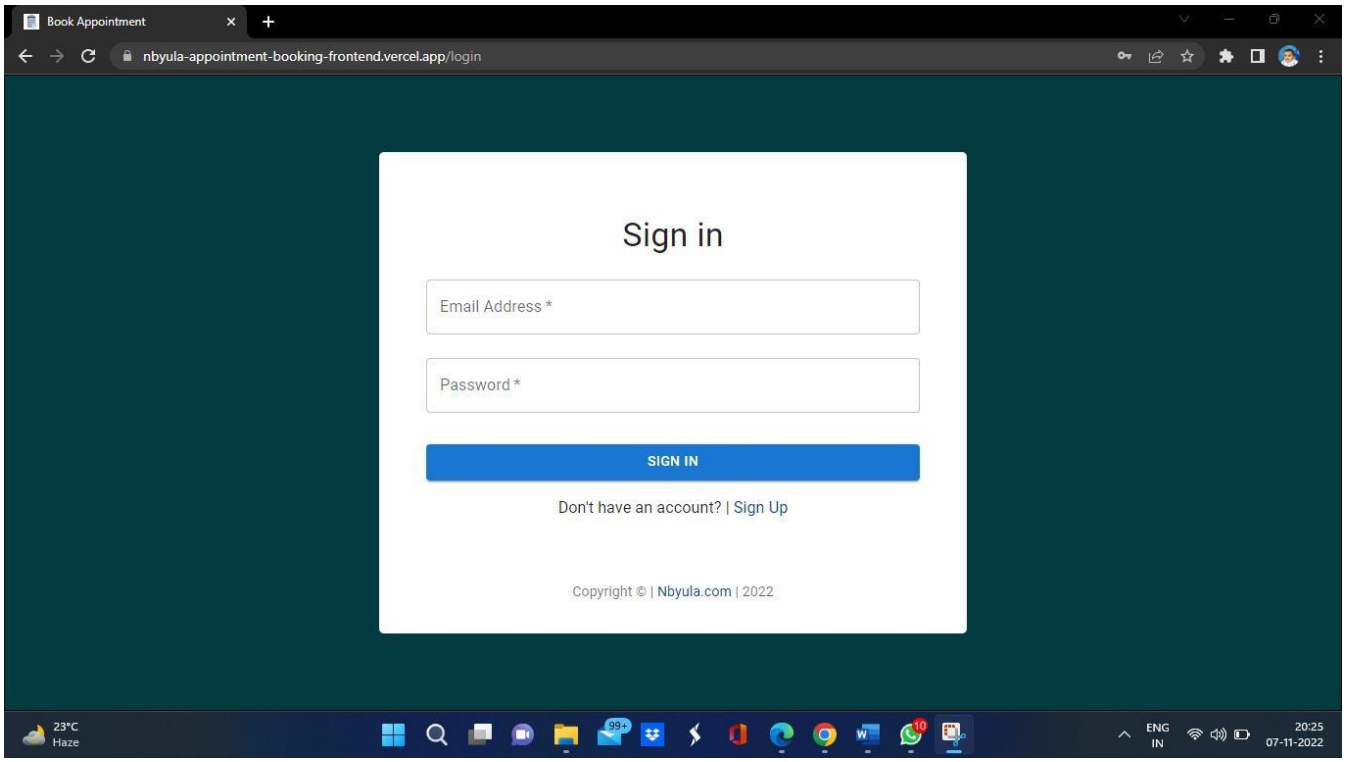
Who Uses Node.js

Following is the link on github wiki containing an exhaustive list of projects, application and companies which are using Node.js. This list includes eBay, General Electric, GoDaddy, Microsoft, PayPal, Uber, Wikipins, Yahoo!, and Yammer to name a few.

USER INTERFACE

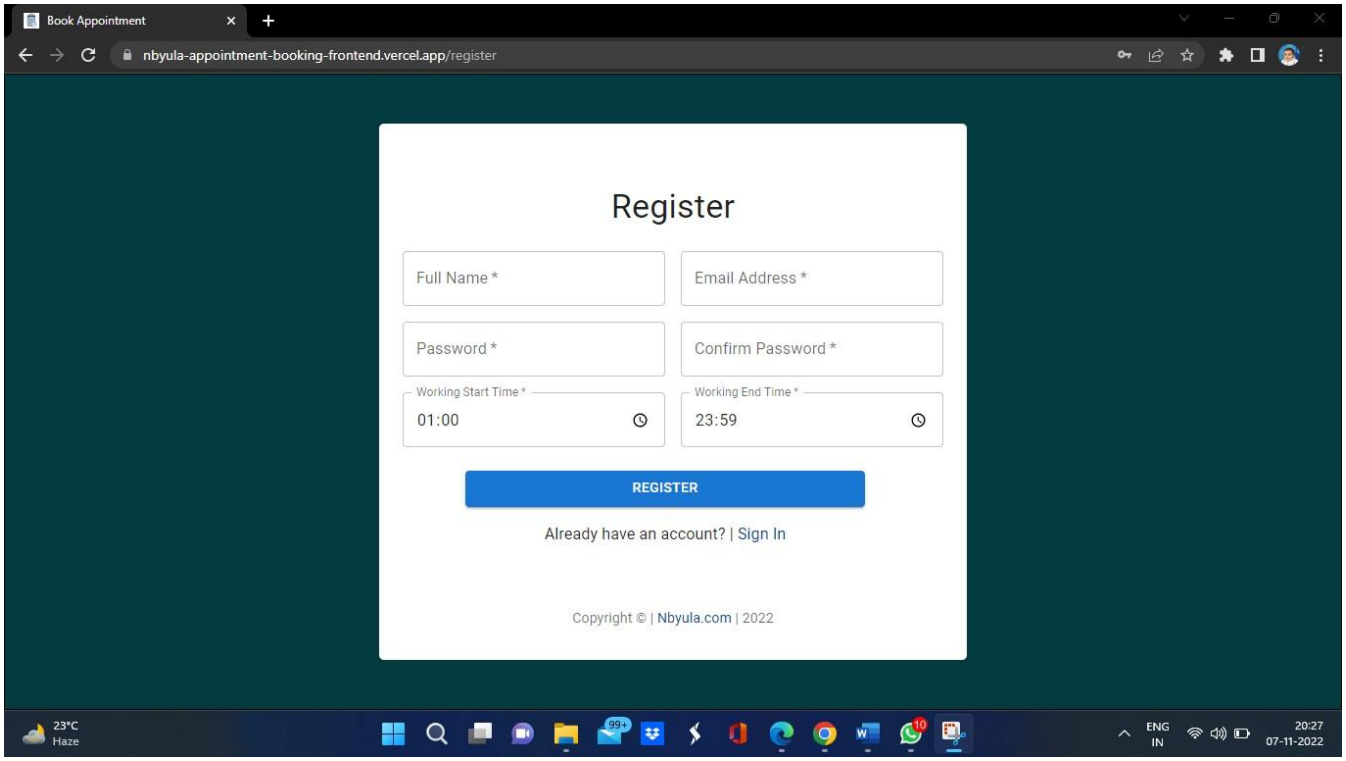
LOGIN PAGE:

This page will get the login crendetails of user if already registered to the application.it takes username and password of user.which are authenticated to the application



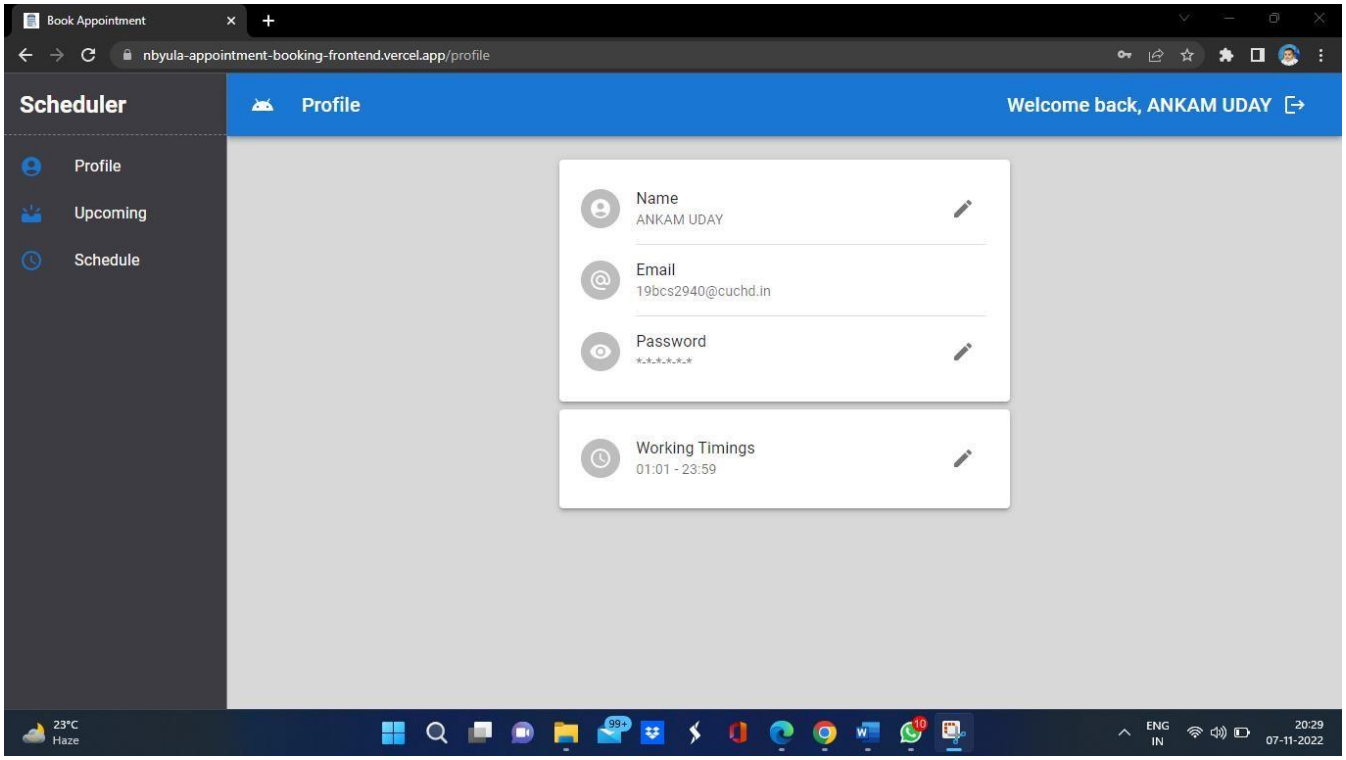
REGISTER PAGE

This page will accept the user information who are new to the system and get access by logging in with their crendetails after registering.it takes name,email,password and working time of user.



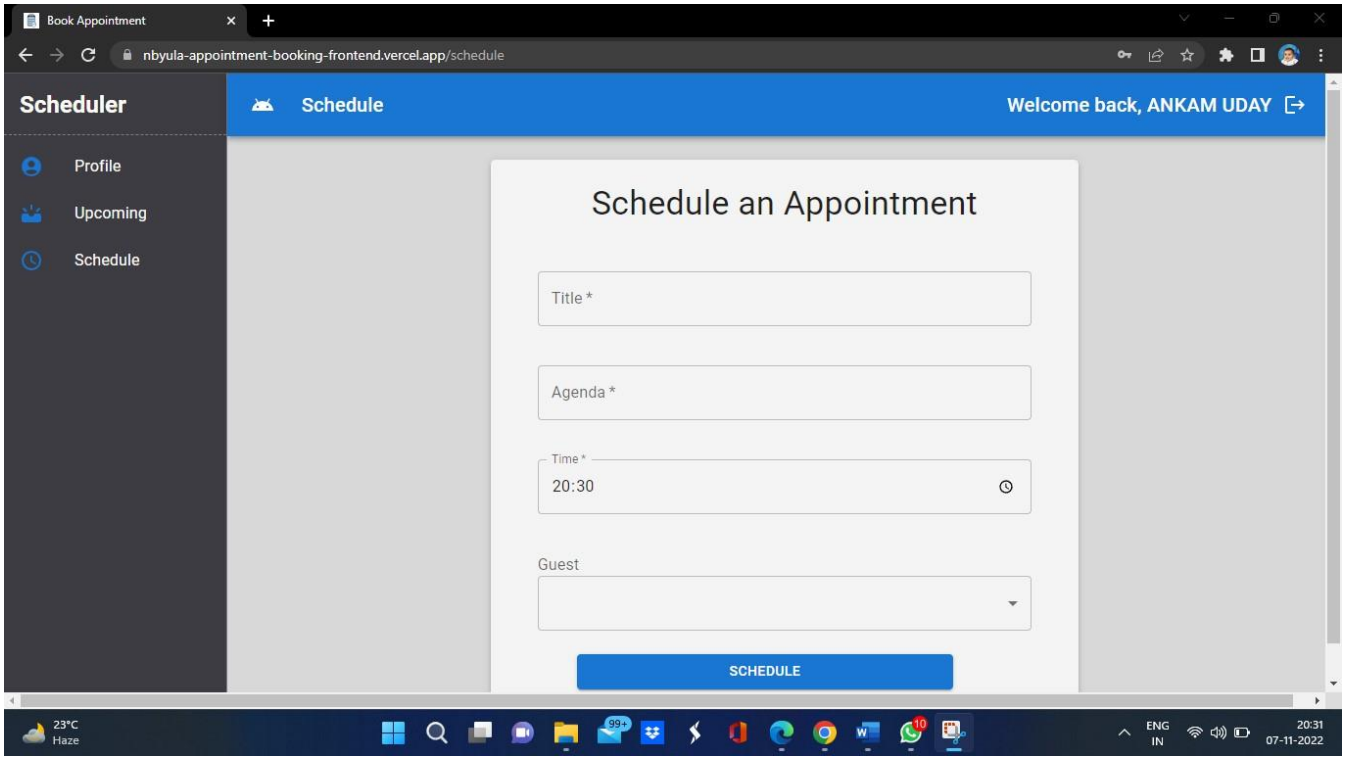
HOME PAGE:

This is the main page of application contains all the functionalities included in the system.those are profile page, upcoming page which contains the information of appointments scheduled and schedule page through which user can book an appointment.



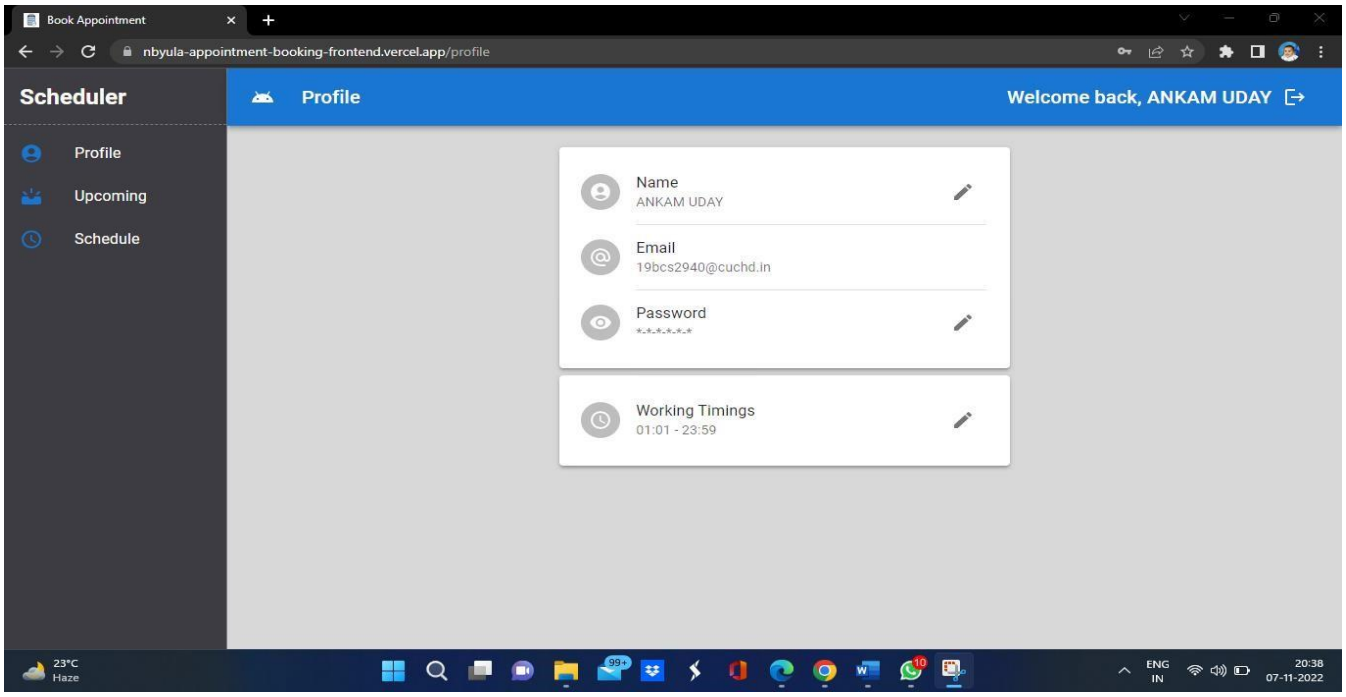
APPOINTMENT SCHEDULE PAGE

Schedule page used to create or schedule an appointment ,this page accepts the several info like reason for appointment ,subject of it and time frame and guests who are involving .



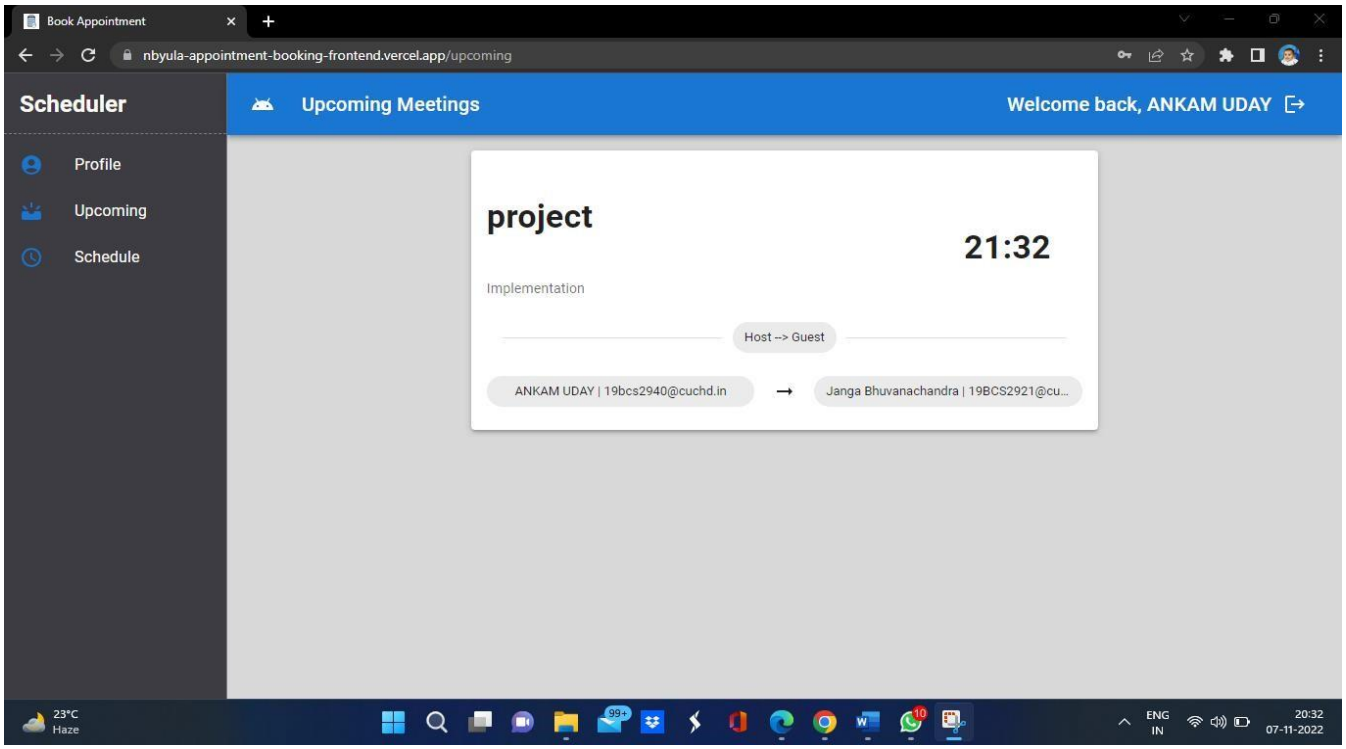
PROFILE PAGE :

This page contains the information of user like name,email and password and work timings of the user.



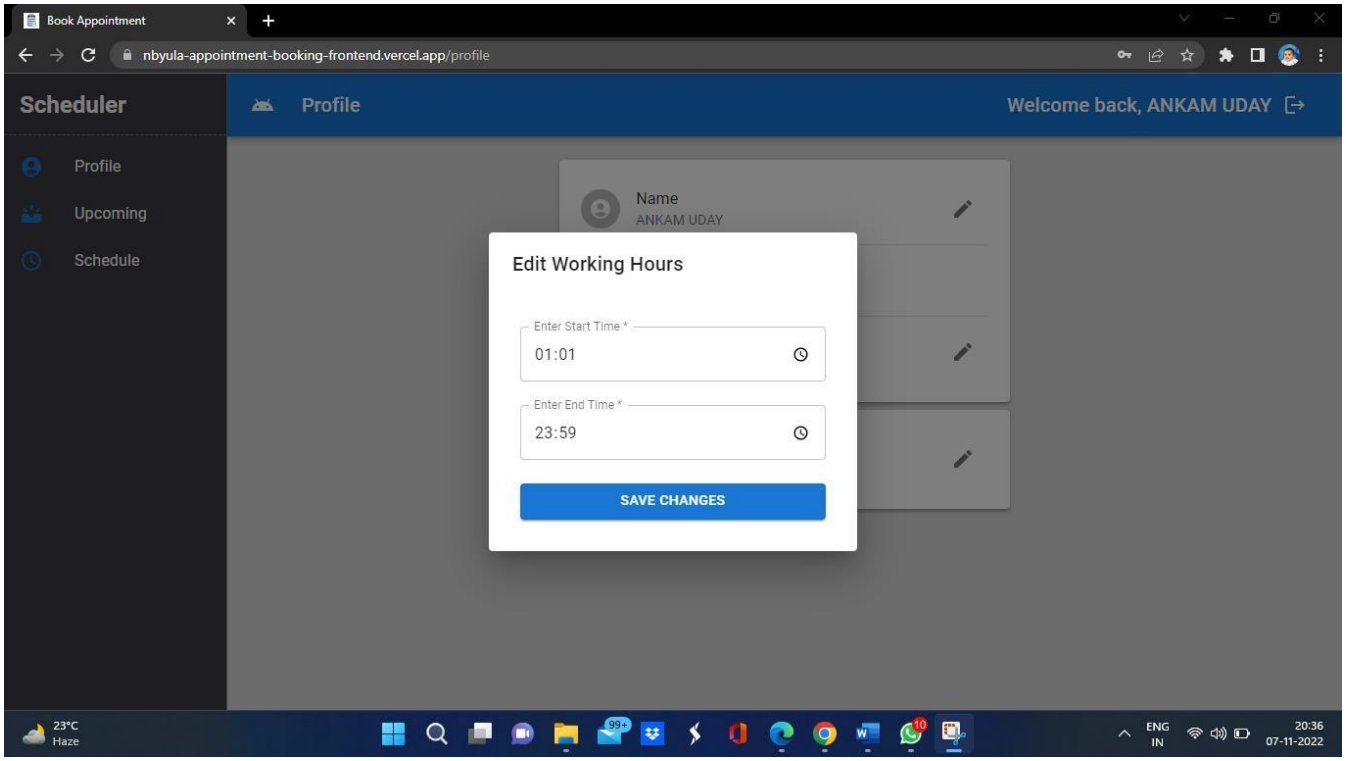
UPCOMING SCHEDULES PAGE:

This page contains the information of appointments scheduled .

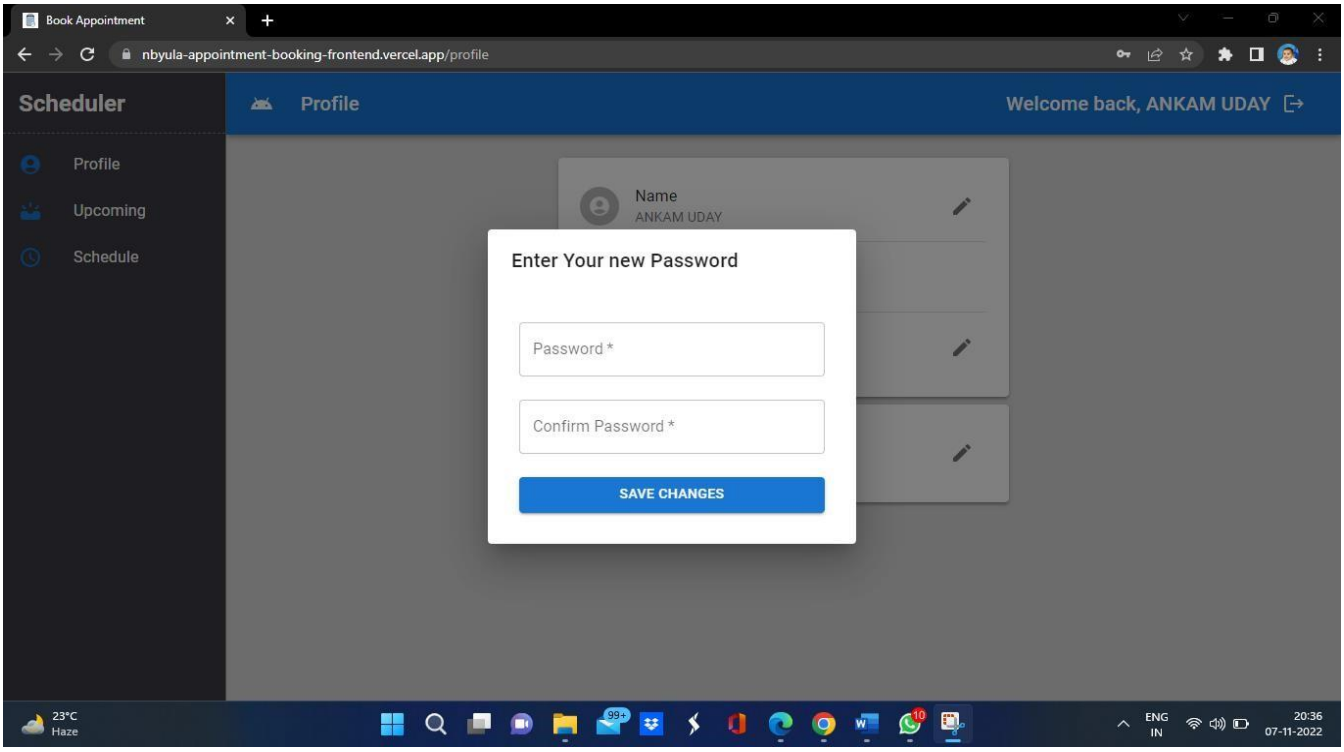


UPDATE USER PAGES:

We can update user also in profile page itself.

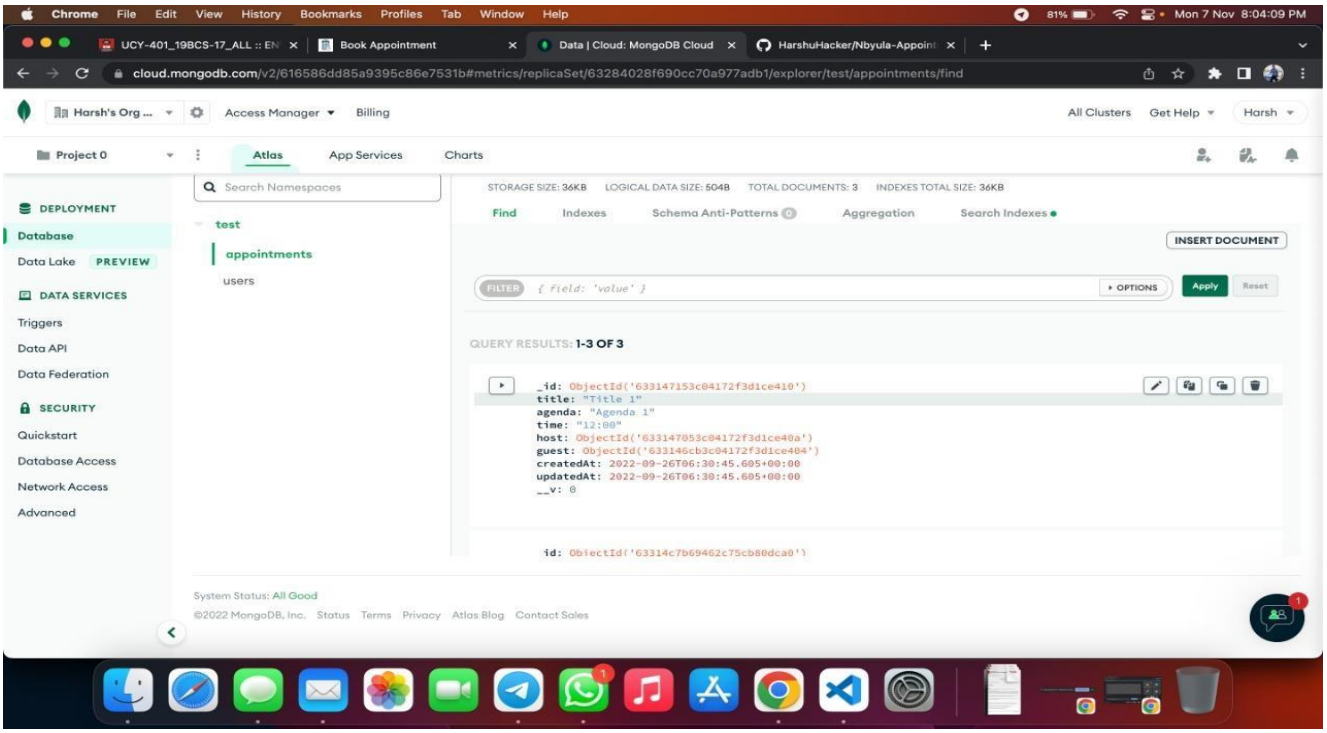


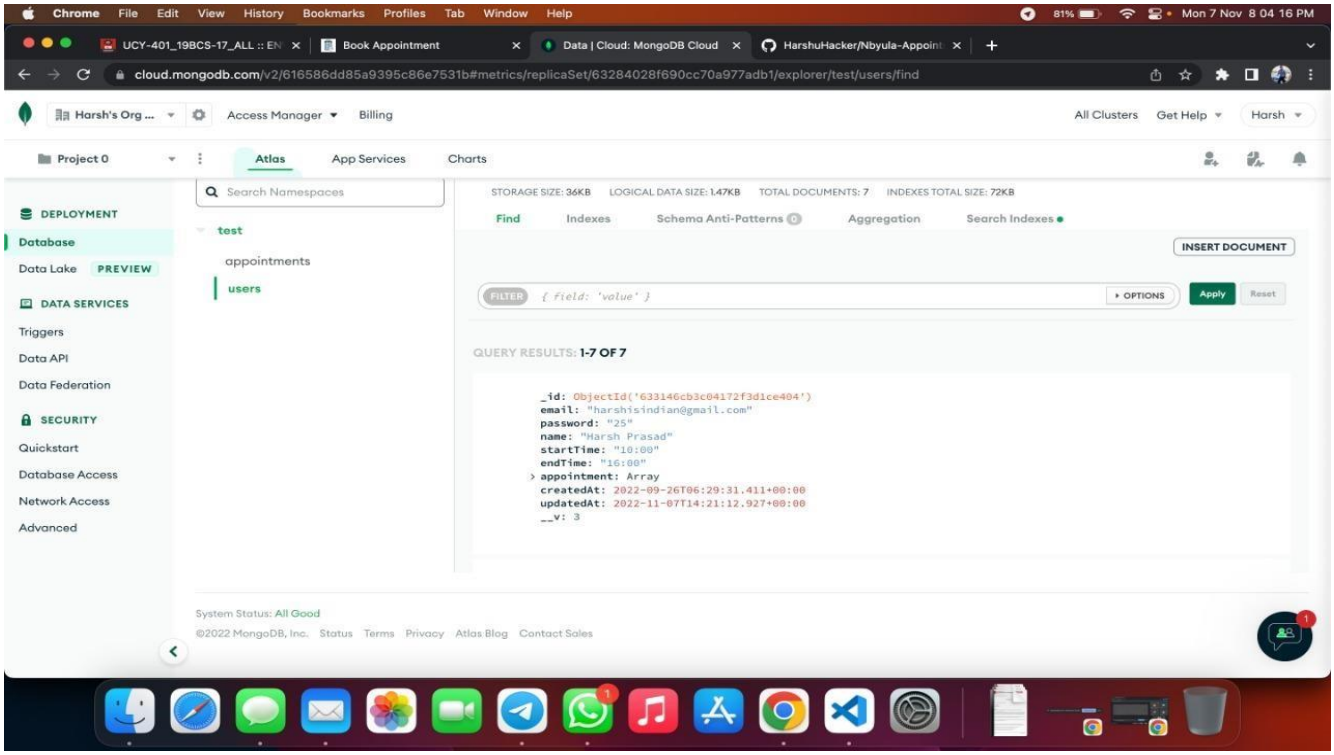
Change Password



DATABASE PAGES

This is the schema of the users who are using the application and actions performed it will store all the information like user info,appoints details etc.





Hardware and Software Specification

Software Requirements:

- **Technology: ReactJs**
- **IDE : VS-code/Webstorm**
- **Client Side Technologies: HTML, CSS, JavaScript , Bootstrap,React**
- **Server Side Technologies: Node & expressJs**
- **Data Base Server: mongoDB**
- **Operating System: Microsoft Windows/Linux /Mac**

Hardware Requirements:

- **Processor: intel core (or) Higher**
- **Ram: 64MB (or) Higher**
- **Hard disk: 80GB (or) Higher**

Schedule appointments:

Arecent study showed that 46% of appointments that are booked online are booked by clients themselves and not by company employees on clients' behalf. While the days of whipping out a thick paper planner aren't over, the shift toward computerized and online appointment systems has been underway for quite some time.

But how do you know what kind of appointment booking solution to use? How do you add a booking calendar to a website? What's the most efficient way to schedule meetings online? How much information can you gather from clients during the booking process? The following will help answer your questions.

Invite others to the appointment or meeting via text or email
Display to invitees the entire list of all those scheduled to attend the appointment
Display the status of those invited, showing whether they have accepted the invitation or not
Despite all these features, calendar apps have their limitations. They may not be able to collect information from people before the appointment or keep a count of the appointments you've had over a certain period of time. Another potential problem is that they may not allow other people to book

appointments. You would have to ask them to set up their own appointment and then invite you as a participant.

Ways to schedule an appointment:

Arrange for clients to fill out paperwork before the appointment. Another convenient feature of appointment software is the ability to have clients enter information critical to the appointment. For example, medical offices have patients fill out health information, and the Apple Store has customers enter the issue they're having with their device. Other businesses can use this feature to gather information on what the client wants to accomplish during the meeting.

Sync with everyone involved in the appointment. With appointment software, you can easily get everyone on the same page using the app or automated communication methods like emails, text messages, or phone calls.

Streamline the signup process. With software, you can have clients enter appointments through an online interface or on their devices. Then, the appointment can automatically sync with every device that runs the app as well as cloud-based calendars, such as Google Calendar.

Keep a running tally of appointments. Software allows you to track the number of appointments you have, including how many you've made each week, month, quarter, or year. Calendar app on your mobile device or computer

Scheduling appointments using a cloud-enabled calendar app is becoming commonplace. If the calendar that comes with your device has adequate features, you can skip a step by not having to download and learn to use a different one. You can use cloud-enabled calendars to:

Schedule appointments

Enter appointment details

Change the date, time, and other specifics
Set up recurring appointments

Schedule alerts for a specific time before the appointment

Interface with other apps, such as Google Maps, to provide specific location information
Set up alerts for when you should leave to get to the appointment based on distance and current traffic conditions

Plugin on your website

A website plugin is an app that integrates with your website to offer extended functionality. There are a wide variety of booking plugins available, allowing you and others to enter appointments online. Look for a scheduling plugin that allows you to:

Customize the hours when appointments are available

Set permissions for clients to book appointments on their own Set
up automated notifications for meetings
Integrate the plugin with calendar tools within other programs
Incorporate lead-generation tools that can collect client information

Accept payments
Switch the language or currency according to the location or background of attendees
Automatically change time zones for people attending from different areas Integrate
it into a social media post or webpage

Choosing the best platform for your business
When evaluating different booking platforms, you should of course consider your own needs, but keep in mind those of your clients, too. It won't do you any good if your clients can't use it or access it. You want to find an appointment platform that can:

Manage new and existing client information
Encourage clients to enter details when booking

Allow clients the option of suggesting changes to the appointment within the app

Integrate with marketing or outreach campaigns and email tracking systems Show
who accepts or rejects appointments

Offer clients the option to explain why they can’t attend an appointment Features to look for

You should check for certain must-haves when choosing your appointment booking platform.

Proposed System of Appointment System:

The aim of proposed system is to develop a system of improved facilities.

The

proposed system can overcome all the limitations of the existing system. The system

provides proper security and reduces the manua

Security of data.

Ensure data accuracy's.

Proper control of the higher officials.

. Minimize manual data entry.

Minimum time needed for the various processing.

. Greater efficiency.
Better service
User friendliness and interactive

Minimum time required.

USABILITY FEATURES:

Is easy to use by you and your clients

Is mobile-compatible

Offers payment options

Allows invitees to reschedule or even cancel their appointments

Can schedule a meeting with multiple people

Has appointment confirmation options

Includes calendar views, such as by the week, day, or month

Has an automated check-in system, if applicable

Has an automated reminder system

Integration features

Has a plugin that can interface with your website

Is able to run on its own, separate from your website, in case your site goes down

Incorporates links to scheduled voice calls or video conferences

Works with your other cloud-based calendars

Connects with cloud-based mapping solutions such as Google or Bing, as well as their link- and location-sharing features

Integrates with your customer relationship management (CRM) tools

Best practices when booking appointments

To make booking appointments easier for you and more convenient for your clients, you should keep the following best practices in mind.

Leave a time buffer between appointments. This leaves room for clients who are running late and gives you time to collect your post-meeting thoughts before your next engagement.
Schedule recurring appointments all at once rather than wait until shortly before each appointment. This way, you won't miss periodic meetings or follow-ups with leads or strategic partners.

Set the system to automatically send reminders to clients. Reminders are great for preventing noshows. But be careful not to overwhelm clients with reminders, or they'll tune them out. Consider asking the client if and how often they would like reminders.

Arrange to have confirmations sent automatically to you and your clients. You can review the meeting request to prepare ahead of time.
Use a plugin or app that can detect the time zone of participants. This is especially helpful for participants in different countries, where daylight saving time may kick in—or end—on a different date than in your own country. Automatic time zone detection solves this problem.
Use your appointment scheduler to set up customized work schedules for your staff. You can keep project milestones and deadlines on track by setting up work schedules that take your employees' time and work styles into consideration. An appointment program can be a powerful tool for arranging flexible work times that change from week to week or month to month.

Use a custom form builder in conjunction with your scheduling platform to gather feedback before appointments. You can create fields for attendees to enter contact information and personal data necessary for the appointment. You can also have people answer questions that will make it easier to create action items, verify what will happen, or arrange specific details.

Accept payments. Whether you're offering a subscription service or a product, or want to coordinate a payment made by multiple individuals, you can integrate a secure, reliable payment system with your appointment scheduler. This makes it easier for clients to pay you. It also enables you to keep track of who made the payments and for which appointments.

Making and managing online appointments can be simple and convenient for everyone involved. Remember to identify your needs as well as your clients' needs before choosing a final solution.

With Mailchimp appointments, you can customize the name of your services, service descriptions, and the duration of appointments. You can also customize availability times. Give it a try today and start booking appointments through your website.

Appointment booking platform that lets your customers schedule appointments directly on your website with an easy-to-use calendar and booking form. Set up locations, services, and providers for those services, and let your clients start booking their appointment reservations online today!

Includes Gutenberg block for displaying appointment booking forms!

KEY APPOINTMENT BOOKING FEATURES:

Create appointment locations with different opening hours

Create appointment services that cost different amounts and take different amounts of time

Dynamically updated booking calendar and appointment schedules, so it's impossible to double book

Optional multi-step booking form

Set required information, such as name or phone number

Great for businesses that need to set up one-on-one or one-to-many services, such as mechanics, medical professionals, event venues, exercise classes, corporate training sessions, etc. Also works to schedule meetings, for scheduling phone calls and for other situations in which a booking form and reservation system are required.

[ultimate-appointment-calendar]

[ultimate-appointment-dropdown]

Simply insert either of the appointment booking shortcodes above into any page to display a responsive booking form. The first will display a booking calendar, from which you can select and reserve an appointment time. The second will allow you choose a date and then display available appointment booking times that are available for you to book a reservation.

Allow your visitors and customers to book reservations for a wide array of services and appointment types. With options to create an unlimited amount of unique appointment services, to specify multiple different appointment locations, and to create service providers and specify the services they do, the booking locations they work at and their hours, all with an easy-to-use reservation form on the front end, Ultimate Appointment Scheduling provides the most simple and effecting booking solution and reservation system that is perfect for both you the admin as well as your site visitors.

ADDITIONAL APPOINTMENT RESERVATION FEATURES:

Ultimate Appointment Scheduling comes with many more features that make it the most advanced and versatile booking form solution for accepting reservations on your WordPress site, including

options to make your appointment services, locations and providers as specific or broad as you require, and a mobile booking form for the ultimate responsive reservation system.

Options to set a minimum and maximum number of days before an appointment that a reservation for a service can be booked
Set the amount of time between appointments. This, combined with the duration set for a service, will decide when appointment reservations can made.
Send automatic emails to clients when a reservation is placed and an appointment is successfully created
Set the date format and hours format
Set a calendar offset to specify how far ahead the default opening date of the calendar will be

PREMIUM APPOINTMENT FEATURES:

The premium version of Ultimate Appointment Scheduling comes with even more features, which will allow you to customize the form both to your exact needs and to your website. Some of the great premium features are:

Accept mandatory or optional payments for appointments either via PayPal or WooCommerce Set up automated reminder emails that will go out to your clients a certain number of days or hours before their appointments

Require login to WordPress, Front-End Only Users, Facebook or Twitter before being a to create an appointment, to prevent spam Make use of the new contemporary style booking form
Labelling options Customize the look of your form with an array of styling options to help you fit it in seamlessly with the rest of your site
SHORTCODES
[ultimate-appointment-calendar]: display a calendar that with available appointment times that users can click to select an appointment
[ultimate-appointment-dropdown]: display a set of dropdown menus to find appointment times and schedule an appointment

Technology is a marvelous thing that is always making our lives easier. This is particularly true for day-to-day tasks. We can simply depend on our computers or smartphones to do just about anything. You can look up information, check the forecast, connect with friends, and even book appointments online.

BOOKING PROCESS:

An appointment booking app can save your company time and money. It is a waste to spend time manually booking appointments when you could be devoting more time to your business instead. It's time-consuming to correspond with a client. Returning calls or emails, making reservations, and sending reminders are all steps that can be avoided.

Scheduling apps help to save all of this time by showing clients your availability in real-time and letting them choose the option that best suits them. From there through the online booking option, they can change or cancel the appointment if they need to.

The app should also send automatic reminders without you having to do anything. This is an ideal solution if you want to be able to spend your time focusing on your work.

Features to Look For

An appointment booking app will likely be an investment of both money and time. Not only do you need to buy the right product, but it will take an investment of time to set it up and learn how to use it. This is why it's important to get started with an easy to use scheduling software and one with a difficult learning curve.

This is a list of important features that effective scheduling software must-have.

CHAPTER 4

RESULT VALIDATION

Implementation of design using Modern Engineering tools in analysis

Appointment schedulers are business tools that allow clients to book, reschedule, and cancel appointments through a web interface. When clients want to make an appointment, they go to your business's website, Facebook Page, or anywhere else the booking software is supported, and choose an available date and time.

On the backend, you enter parameters about when people can book certain services, based on business hours you set as well as the times and dates that your staff or other resources are available. The app also prevents double-booking and over-booking, and gives you the flexibility to block off times when certain services may be unavailable.

Say you run a pet grooming business and your poodle cutting specialist takes a two-week vacation. You can enter her days off in the appointment scheduling app ahead of time so that your clients won't be able to book any poodle grooming time during the days that she's gone.

The best booking apps do more than simply give clients a list of available times when they can come in for a meeting, treatment, or service. They also let your clientele cancel and reschedule appointments without having to contact you. Additionally, they make it easy for business owners and managers to do their jobs, allowing you to streamline communication, centralize payments, and manage your staff.

Here's what you should expect from the very best appointment scheduling apps:

Flexibility. The best appointment scheduling apps know that different kinds of organizations have different needs, so they let you deeply customize how your bookings work. A small gym offering oneon-one training sessions should have a different booking experience than a community workshop that rents gardening equipment. Do you want your clients to be able to choose from a menu of services? Should they be able to specify the location for their appointment, such as for services offered

at their home? Though there are some great niche options out there (like Vagaro for salon, spa, and fitness businesses), the best appointment scheduling apps let you customize these aspects.

Calendar syncing. Nearly all appointment scheduling apps let you sync with a calendar. Some even require it. That way, you can see your business's scheduled appointments alongside other important information, such as when you'll be closed for holidays or renovations. Plus, the app can crossreference your availability with the events on your primary calendar. For our tests, apps were only considered if they offered syncing with Google Calendar and at least one other popular calendar— and priority was given to apps that offered two-way syncing.

Payment processing. The best appointment scheduling apps let you collect a payment at the time of booking. That way, you can take a deposit for an appointment or have clients pay for their services upfront. If a client doesn't show up, your business isn't at a total loss.

Integration with third-party tools. Your appointment scheduling tool absolutely needs the ability to connect to the rest of your tech stack. If the app can't integrate with tools like Slack, Mailchimp, and Zoom (or at least let you set up your own connections with Zapier), it has no business being on this list.

Professional presentation. Your appointment scheduler should be an extension of your brand. Whether customers are making bookings or an industry peer is scheduling a Zoom call with you, the appointment scheduling process should be streamlined, glitch-free, and aesthetically pleasing. It should also be flexible, with multiple points of access like a widget on your website, a Facebook Business Page, or a custom URL. For this reason, I tested each app from both the business and client sides.

I excluded any online booking system that didn't have standalone functionality. For instance, there are plenty of WordPress plugins that let your website visitors book appointments, but that could be a list in and of itself, so I didn't consider those options

An online doctor appointment system **enhances patient satisfaction**. Patients no longer have to be worried about the wait times in your clinic. They can plan their daily schedule better. They spend less time waiting to meet the doctor.

Testing:

Regression Testing Regression testing covers already tested software to ensure it doesn't suddenly break, even after a change of component or module. For example, retesting a dialler after making a feature upgrade. If the software didn't work after several modifications, then it would be called a regression.

4.2.2 Unit Testing Here, the program is split into blocks, or units, and each section is tested separately. Each unit is called and validated to ensure the individual components of the model meet the user requirements.

4.2.3 Beta Testing Beta testing, or usability testing, gives selected target users an almost finished version of the program. It helps finding bugs and is carried out to match and validate the program with the user's requirements. Beta tests are typically deployed several times to achieve this. For example, giving select users access to new versions of video conferencing platforms, like Jitsi or an alternative to Zoom.

4.2.4 Alpha Testing This type of testing is done just before the product launches. It's similar to beta testing, where users test the program. But this time it's done in-house with the testing team. Alpha testing aims to find and fix bugs that weren't discovered through previous tests.

4.2.5 Integration Testing In integration testing, the result set is taken from unit testing and groups of modules combined to see how they work together. The main purpose of integration testing is to ensure that modules interact correctly when combined and that the standards of the system and model are met. For example, consider a UCaaS model that combines multiple communication channels in an app. An UCaaS provider will test each channel on its own and with other channels. If there were issues when combined, the system wouldn't be fit for the user's need.

Performance Analysis:

There are a variety of ways to set up appointments, some classic and some high-tech.

Email is efficient and effective. Nearly everyone has an email address, and if someone forgets the details of an appointment, they can easily go to their inbox and find it.

Over the phone. Scheduling appointments over the phone allow you to develop a connection, discuss any questions the client has, and ask questions yourself. You can then enter the appointment information into your calendar software.

Invitation via a meeting or conferencing platform. You can send invitations to meetings on specific applications from the apps themselves. For example, you can generate meeting invitations with Zoom or Microsoft Teams. All the details are in the invite, and this can often sync automatically with the recipient's scheduling software.

In-person. Sometimes, you may have to make an appointment in person. (Yes, this still happens! Think about scheduling a follow-up after an in-person meeting with a client.) You can create the appointment in your software and then invite them through the app, or both parties can enter it simultaneously on their respective devices.

An API on your website. If you're wondering how to create a booking system on your website, in most cases, you'll use some sort of API. Think of it as ready-made software but instead of storing what it needs to run on your computer, the provider stores it in the cloud.

Booking appointments online

To schedule an appointment online, you generally use software that interfaces with the cloud, a calendar app, or a website plugin. Software

Software enables you to do several things that aren't feasible with traditional scheduling methods. For example, software that stores appointment info in the cloud makes it easier to manage your business.

Schedule and check information about the appointment anywhere. Regardless of who initiates the appointment—you or the client—both parties can see and, in some cases, edit the appointment info from their own device. This kind of software comes with a simple interface that you can pull up to check out your appointments while on the go.

Choose when your appointment "book" will be open for signups. You can program the software to only accept new bookings during a specific time—say, certain days of the week or particular hours. This enables you to keep tabs on the number of appointments made.

Share your appointment calendar in multiple places. With some software, you can sync your calendar on your computer, a mobile device, social media, your website, and even in newsletters that go out to clients.

CHAPTER 5
CONCLUSION AND FUTURE WORK

CONCLUSION

The project entitled "Appointment Booking" is developed using React, Bootstrap and Javascript as front end and Node.js as Backend,MongoDB database in back end to computerize the process of Appointment booking. This project covers only the basic features required. After going through the work, we faced many challenging tasks. Day by day healthcare system become an important part of our society. So we have decided to build this system. We researched so many system that showed us the direction how to develop our system. We interact with the people that what type of problem they facing. They were very happy to take this system as it is give them some relief in modern age. Despite everything we achieved, we faced many challenges to finish this project. After all it's an online web-based system so in real life both doctor and patient need to follow the using rules otherwise its goal will be failed.

Patients are increasingly looking at convenient ways to book appointments. They prefer to use options available on their mobile or laptop to book appointments. An online doctor booking appointment system that integrates seamlessly with an E.H.R is ideal for doctors as well. It reduces fatigue and frustration. Adopting digital technologies involving the use of appropriate tools is recommended for doctors. The pandemic has made sure that digital modes are embraced even by sections of society that was either hesitant earlier or had limited access to the internet or such tools. Patients are also likely to be more welcoming of these tools. Having a presence on the internet is a starting point. Having a convenient appointment system using which patients can reach you is the next step. Every doctor should adopt digital tools lest they be left behind. At Genamet we offer this to doctors. In addition to building a digital presence for doctors, we also integrate the appointment booking system which in turn integrates with the E.H.R. Please contact us for a demo.

FUTURE WORK :

Scope of Further Development Online system is always a changeable system. It develops day by day, getting better and better to easier for peoples. This could be a revolutionary web application that may help bonding between doctor and patient. We believe we can make this system more advanced in future. Advance features and User interface will be updated in future. Our system is already user friendly but we will try to make this system more user friendly in future.

In a nutshell, it can be summarized that the future scope of the project circles

around maintaining information regarding:

We can add printer in future.

• We can give more advance software for Doctor Appointment System including more facilities . We will host the platform on online servers to make it accessile worldwide
Integrate multiple load balancers to distribute the loads of the system
Create the master and slave database structure to reduce the overload of the database queries Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers

The above mentioned points are the enhancements which can be done to increase the applicability and usage of this project. Here we can maintain the records of Doctor and Appointment. Also, as it can be seen that now-a-days the players are versatile, i.e so there is a scope for introducing a method to maintain the Doctor Appointment System. Enhancements can be done to maintain all the Doctor, Appointment, Patient, Booking, Doctor Schedule.

We have left all the options open so that if there is any other future requirement in the system by the user for the enhancement of the system then it is possible to implement them. In the last we would like to thanks all the persons involved in the development of the system directly or indirectly. We hope that the project will serve its purpose for which it is develop there by underlining success of process.

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APPENDIX

App.js import *React* from "react"; import { BrowserRouter, Route, Routes } from "react-router-dom";

import Home from "./components/Home"; import Login from "./components/Login"; import Profile from "./components/Profile"; import Register from "./components/Register"; import Schedule from "./components/Schedule"; import UpcomingMeetings from "./components/UpcomingMeetings";

```
const App = () => {
return (
   <BrowserRouter>
     <Routes>
       {/* login / register */}
       <Route path="/" element={<Login />} />
       <Route path="/login" element={<Login />} />
       <Route path="/register" element={<Register />} />

       {/* profile page */}
       <Route
path="/profile"
element={
          <>
            <Home pageTitle="Profile">
              <Profile />
            </Home>
          </>
        }
       />

       {/* upcoming meetings */}
```

```
        <Route
path="/upcoming"
element={
          <>
            <Home pageTitle="Upcoming Meetings">
              <UpcomingMeetings />
            </Home>
          </>
        }
        />

        {/* schedule meetings */}
        <Route
path="/schedule"
element={
          <>
            <Home pageTitle="Schedule a Meeting">
              <Schedule />
            </Home>
          </>
        }
        />
      </Routes>
    </BrowserRouter>
  );
};

export default App;
```

Data.js const

state = {

```
loggedIn: false,
username: "",
email: "",
startTime: "",
endTime: "",
appointment: [],
};

export default state; Monoose.js const
mongoose = require("mongoose");
mongoose.connect(
  "mongodb+srv://root:admin@cluster0.xatnehf.mongodb.net/?retryWrites=true&w=majority"
);
const db = mongoose.connection; db.on("error", console.error.bind(console,
"Error In Connecting To Database")); db.once("open", function () {
console.log("Connected To MongoDB");
});
module.exports = db; AppointmentController.Js const
Appointment = require("../Models/appointment"); const
User = require("../Models/users");

// Function To Check If The Appointment Time Is Between The User's Start Time And End Time
const isAvailable = (startTime, endTime, time) => { var startTime =
Number(startTime.replace(":", "")); var endTime = Number(endTime.replace(":", "")); var time
= Number(time.replace(":", "")); if (startTime <= time && endTime >= time) { return true;
  } else {
return false;
  }
};

// To Get The Indian Standard Time const getIST = () => { var currentTime = new
Date(); var currentOffset = currentTime.getTimezoneOffset(); var ISTTime =
```

```
new Date(currentTime.getTime() + (330 + currentOffset) * 60000);   var hoursIST
= String(ISTTime.getHours());   var minutesIST = String(ISTTime.getMinutes());
return [hoursIST, minutesIST];
};

// To Create An Appointment
module.exports.createAppointment = async function (req, res) {
try {
   // Fetching The Host And Guest From Database Using Their Email Id's
let host = await User.findOne({ email: req.query.host });     let guest =
await User.findOne({ email: req.query.guest });

   // Checking If The Appointment Time Is An Upcoming Time Or Not
time = Number(req.query.time.replace(":", ""));     currTime =
getIST();     hrs = currTime[0];     min = currTime[1];     currTime =
Number(hrs + min);     if (time <= currTime) {       return res.json(500,
{
       message: `You Can't Schedule Appointment Before Or At ${hrs}:${min}`,
     });
   }

   // Checking If The Host Is Available At The Given Time if
   (!isAvailable(host.startTime, host.endTime, req.query.time)) {
     return res.json(404, {       message: `You Are Not Available
For ${req.query.time}`,
     });
   }

   // Checking If The Guest Is Available At The Given Time     if
(!isAvailable(guest.startTime, guest.endTime, req.query.time)) {
return res.json(404, {         message: `${guest.name} Is Not Available
At ${req.query.time}`,
     });
   }
```

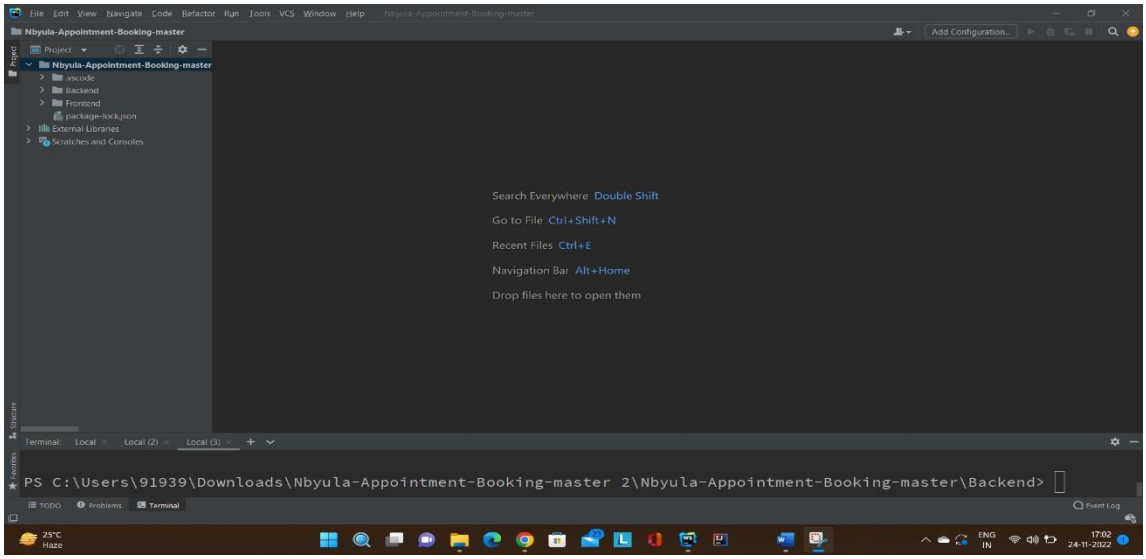
```
    // Checking If The Host Has Another Appointment At The Given Time
for (let i of host.appointment) { appoint = await Appointment.findById(i); if (appoint.time === req.query.time) {
return res.json(404, { message: `You Have Another Meeting At ${req.query.time}`,
      });
    }
  }

  // Checking If The Guest Has Another Appointment At The Given Time
for (let i of guest.appointment) { appoint = await Appointment.findById(i);
if (appoint.time === req.query.time) { return res.json(404, { message:
`${guest.name} Has Another Meeting At ${req.query.time}`,
      });
    }
  }

  // If All The Checks Are Passed Then We Create The Appointment let
  appointment = await Appointment.create({
    title: req.query.title,
agenda: req.query.agenda,
time: req.query.time,
host: host.id, guest:
guest.id,
  });

  // Pushing The Appointment Into The appointment Array Of Host And The Guest
host.appointment.push(appointment); host.save();
guest.appointment.push(appointment); guest.save();

  return res.json(200, {
data: { guest:
guest, host: host,
```

```
    },
    message: "Appointment Created Successfully",
   });
 } catch (err) {          return res.json(500, {
message: "Error In Creating Appointment",
   });
 }
};

// Fetching All The Appointments Of A User
module.exports.getUserAppointment = async function (req, res) {  try
{
   // Finding The User In The Database     let user = await
User.findOne({ email: req.query.email }); usersArray = [];

   // Appending All The Appointments Of The User In The Array(usersArray)
for (let i of user.appointment) {       appoint = await Appointment.findById(i)
       .populate("host", "name  email")
.populate("guest",    "name    email");
usersArray.push(appoint);
   }     return res.json(200, {       message: `List Of
Appointments Of ${user.name}`,       data: usersArray,
   });
 } catch (error) {        return res.json(500, {
message: "Error In Finding Appointment",
   });
 }
};

// Fetching All The Upcoming Appointments Of A User
module.exports.getUpcomingAppointments = async function (req, res) {
try {
   // Finding The User In The Database
   let user = await User.findOne({ email: req.query.email });
usersArray = [];
```

```
    // Appending All The Appointments Of The User In The Array(usersArray) Which Is After The
Current Time     for (let i of user.appointment) {       appoint = await Appointment.findById(i)
       .populate("host", "name email")
.populate("guest", "name email");       time =
Number(appoint.time.replace(":", ""));
currTime = getIST();       hrs = currTime[0];
     min = currTime[1];
currTime = Number(hrs + min);
if (time >= currTime) {
usersArray.push(appoint);
      }
   }     return res.json(200, {       message: `List Of Upcoming
Appointments Of ${user.name}`,       data: usersArray,
   });
  } catch (err) {       return res.json(500, {         message:
"Unable To Find Upcoming Appointments",
   });
  } };
```

USER MANAUAL

1)OPEN WEBSTORM IDE

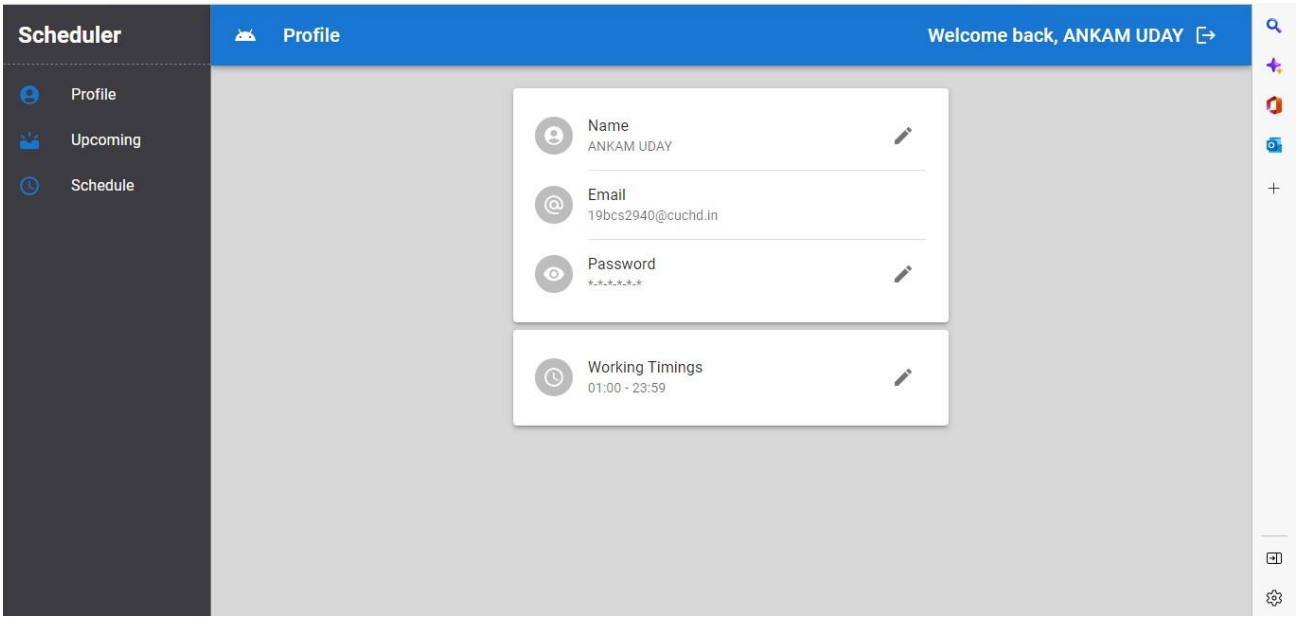


2)OPEN APPOINTMENT BOOKING WEBSITE

3)YOU WILL SEE TWO FILES FRONDEND AND BACKEND IN PROJECT FILE RIGHT CLICK ON BACKEND

4) OPEN IN TERMINAL AND RUN COMMAND “npm start” REPEAT SAME STEP BY OPENING FRONTEND FILE AS WELL

5)AFTER THE WEB APPLICATION WILL OPEN USER CAN REGISTER BY ENTRING THEIR DETAILES AFTER THAT THEY WILL BE LOGIN .



YOU WILL GO TO HOME PAGE

6)IN THIS PAGE USER CAN PERFORM DIFFERENT FUNCTIONALITIES